UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year Ended December 31, 2015

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Transition Period from to

Commission File Number: [001-34949]

Arbutus Biopharma Corporation

(Exact Name of Registrant as Specified in Its Charter)

British Columbia, Canada	**980,597,776**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

100-8900 Glenlyon Parkway, Burnaby, BC V5J 5J8
(Address of Principal Executive Offices)

604-419-3200
(Registrant's Telephone Number, Including Area Code):

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange on Which Registered**
Common shares, without par value	The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act:

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No x

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No x

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o	Accelerated filer x	Non-accelerated filer o	Smaller reporting company o
		(Do not check if a smaller reporting company)	

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x

The registrant is an accelerated filer as the aggregate market capitalization of voting and non-voting equity held by non-affiliates as at June 30, 2015 was $644,038,348. As of February 29, 2016, the registrant had 54,625,703 Common Shares, no par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its 2016 annual meeting of stockholders, which the registrant intends to file pursuant to Regulation 14A with the Securities and Exchange Commission not later than 120 days after the registrant's fiscal year end of December 31, 2015, are incorporated by reference into Part III of this Form 10-K.

ARBUTUS BIOPHARMA CORPORATION

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This annual report on Form 10-K contains forward-looking statements within the meaning of the Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and forward looking information within the meaning of Canadian securities laws (collectively, "forward-looking statements").

Forward-looking statements in this annual report include statements about Arbutus' strategy, future operations, clinical trials, prospects and the plans of management; the composition and roles of the management team; Arbutus' continued listing on NASDAQ; the effects of Arbutus' products on the treatment of cancer, chronic Hepatitis B infection, infectious disease, alcohol use disorder, and other diseases; using a combination of HBV drug candidates to effect patient benefit and develop a potential cure; intervening at different points in the viral life cycle; evaluating combinations of two or more drug candidates in cohorts of patients with chronic HBV infection, and using the results to adaptively design additional treatment regimens for the next cohorts; evaluating different treatment durations to determine the optimal finite duration of therapy, and continuing this iterative process until we select combination therapy regimens and treatment durations to conduct Phase III clinical trials intended to ultimately support regulatory filings for marketing approval; continuing to expand our HBV pipeline through internal development, acquisitions and in-licenses; the format and timing of the ARB-1467 Phase II multi-dosing study, including the expectation of single dose and multi-dose HBsAg reduction data in the second half of 2016; incorporating technological and product design advancements that may result in an improvement in safety and/or efficacy; the potential of ARB-1740 to be effective at lower clinical doses than ARB-1467; filing an IND (or equivalent filing) for ARB-1740 in the second half of 2016; the expectation for inhibition of cccDNA formation to reduce the amount of cccDNA in the infected liver by blocking the formation of new cccDNA, with faster declines in cccDNA levels in patients than is seen with nucleot(s)ide analogs alone; filing an IND (or equivalent filing) for our lead cccDNA formation inhibitor in the second half of 2016; blocking viral replication with core protein inhibitors as oral therapeutics for the treatment of chronic HBV infection; filing an IND (or equivalent filing) for our lead core protein inhibitor candidate in the second half of 2016; using immune stimulation by toll-like receptor (TLR) agonists to overcome the immunologic blocks that allow chronic HBV persistence; initiating clinical development of ARB-1598 in chronically infected HBV patients in 2016; the development of multiple small molecule orally bioavailable inhibitors of HBV surface antigen production and secretion, with the immune response of patients treated with this therapy able to reengage and thereby mount a more credible response to a hepatitis B virus infection; developing cccDNA epigenetic modifiers to inhibit the formation of new virus and sub viral particles from cccDNA; developing STING agonists so the body can produce additional interferon alpha and beta, with the plan to identify potent, orally active small molecule human STING agonists that possess the desired characteristics to progress into human clinical studies; continuing to explore opportunities to generate value from our LNP platform technology; partnering or external funding opportunities to maximize the value of our oncology related assets; an assessment of efficacy of TKM-PLK1 in terms of tumor response in approximately 20 subjects upon completion of the expansion cohort of the Phase I/II clinical, with results expected in 2016; partnering or external funding to maximize the value of RNAi product assets; partnering or external funding to maximize the value of TKM-HTG; TKM-ALDH inducing prolonged ethanol sensitivity that will enable it to overcome the compliance limitations associated with daily dosing; partnering or external funding to maximize the value of TKM-ALDH; receiving low single digit royalties as Alnylam's LNP-enabled products are commercialized; New Drug Application (NDA) filing for this patisiran in 2017; initiate the Phase I clinical trial of DCR-PH1 in patients with PH1 in 2016; arbitration proceedings with the University of British Columbia in connection with alleged unpaid royalties; the expected return from strategic alliances, licensing agreements, and research collaborations; receiving payments for the Alnylam license agreement; the result of negotiations with Monsanto regarding the close out terms, which could involve termination or exercise of the option to acquire rights to our proprietary LNP technology for use in agriculture; the terms of a potential licensing agreement with Cytos; royalty and milestone payments to Blumberg and Drexel under the license agreement; royalty and milestone payments to Enantigen's stockholders; a potential exclusive, royalty bearing, worldwide license with Blumberg; expanding our exclusive license agreement with NeuroVive; the expectation for revenue to continue to fluctuate due to the irregular nature of licensing and milestone receipts under our collaboration and licensing contracts; the expectation to see future changes in the fair value of our warrant liability; not recording significant revenue from the DoD contract beyond 2015; the length of the Monsanto option period being approximately four years; the expectation to complete services to Dicerna in March 2017; the plan to use March 2015 public offering proceeds to develop and advance product candidates through clinical trials, as well as for working capital and general corporate purposes; having sufficient cash resources for at least the next 12 months; milestone payments and royalties to Arcturus under their license agreement; when we will to adopt recent accounting updates; continuing to incur substantial expenses and hold cash and investment balances in Canadian dollars; Arbutus' intent to retain earnings, if any, to finance the growth and development of their business and not to pay dividends or to make any other distributions in the near future; anticipated royalty receipts; statements with respect to revenue and expense fluctuation and guidance; predicted tax treatment; not expecting the enrollment of first patient in Phase 1b clinical trial in HBV patients to occur in the next twelve-month period; discontinuing the OCB-030 development program; and the quantum and timing of potential funding.

With respect to the forward-looking statements contained in this annual report, Arbutus has made numerous assumptions. While Arbutus considers these assumptions to be reasonable, these assumptions are inherently subject to significant business, economic, competitive, market and social uncertainties and contingencies.

Our actual results could differ materially from those discussed in the forward-looking statements as a result of a number of important factors, including the factors discussed in this annual report on Form 10-K, including those discussed in Item 1A of this report under the heading "Risk Factors," and the risks discussed in our other filings with the Securities and Exchange Commission and Canadian Securities Regulators. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's analysis, judgment, belief or expectation only as of the date hereof. We explicitly disclaim any obligation to update these forward-looking statements to reflect events or circumstances that arise after the date hereof, except as required by law.

PART I

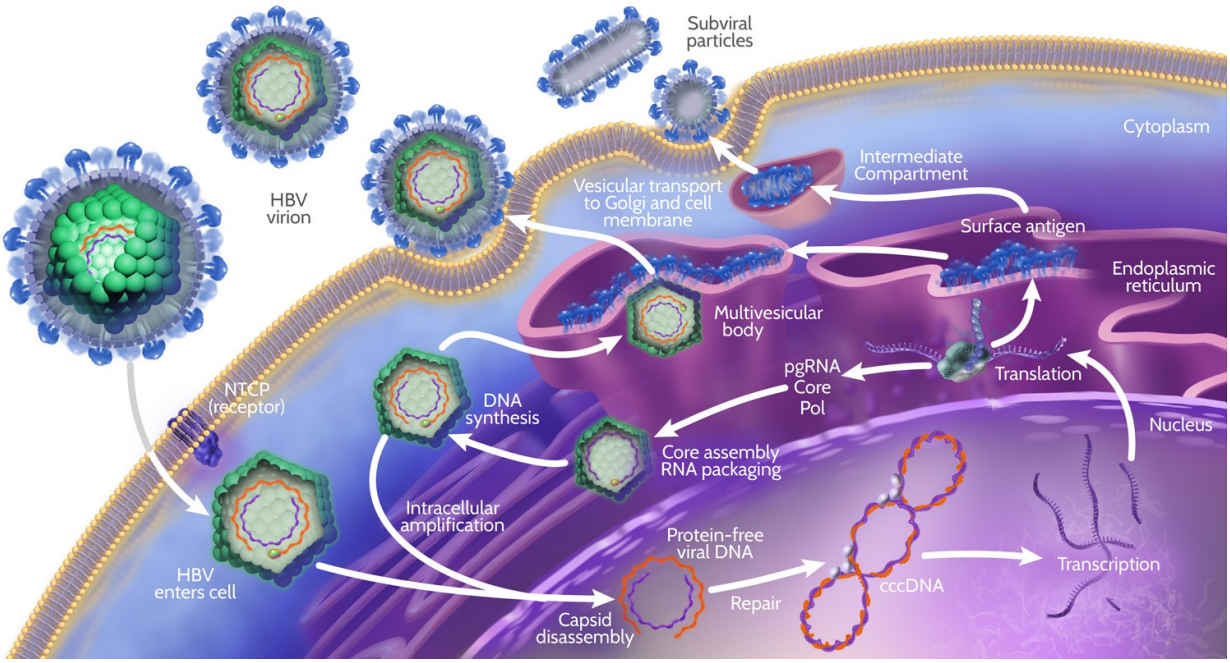
1. Business

Overview

Arbutus Biopharma Corporation (“Arbutus”, “we”, “us”, and “our”) is a publicly traded industry-leading therapeutic solutions company focused on discovering, developing and commercializing a cure for patients suffering from chronic hepatitis B (HBV) infection, which leads to serious liver disease. Effective July 31, 2015, our corporate name changed from Tekmira Pharmaceuticals Corporation to Arbutus Biopharma Corporation. Our pipeline is focused on finding a cure for chronic HBV infection. This HBV pipeline consists of multiple drug candidates, with complementary mechanisms of action, which we expect to use in combination to effect patient benefit.

HBV represents a significant unmet medical need and is the cause of the most common serious liver infection in the world. The World Health Organization estimates that 350 million people worldwide are chronically infected, and other estimates suggest this could include approximately 2 million people in the United States (Kowdley *et al.*, 2012). Individuals chronically infected with HBV are at an increased risk of developing significant liver disease, including cirrhosis, or permanent scarring of the liver, as well as liver failure and hepatocellular carcinoma (HCC) or liver cancer. According to the Hepatitis B Foundation, HBV is the cause of up to 80% of liver cancers. Individuals with liver cancer typically have a five-year survival rate of only 15%. The WHO estimates that more than 780,000 people die every year due to the consequences of hepatitis B virus disease.

Given the complex biology of HBV (as shown in the graphic below), we believe combination therapies are the key to HBV treatment and a potential cure, and development can be accelerated when multiple components of a combination therapy regimen are controlled by the same company.



HBV Focused Product Pipeline

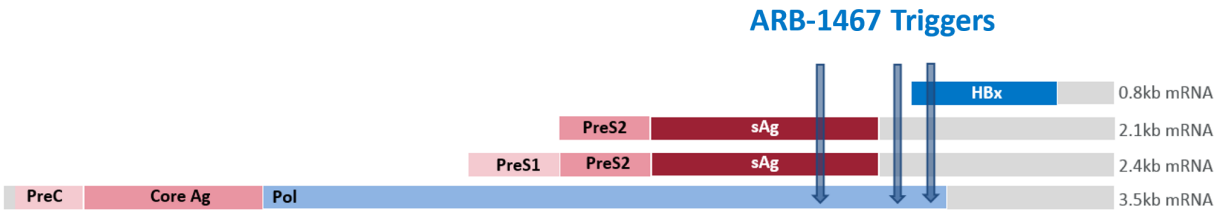
We have a pipeline focused on finding a cure for chronic HBV infection, with the objective of developing a combination of products that intervene at different points in the viral life cycle. Given our strong scientific and research capabilities in-house, we are able to conduct preclinical combination studies to evaluate combinations of our proprietary pipeline candidates. Once compounds within the portfolio with sufficient activity have been identified, we intend, subject to discussions with regulatory authorities, to evaluate combinations of two or more drug candidates in cohorts of patients with chronic HBV infection. We expect to use these results to adaptively design additional treatment regimens for the next cohorts. We also plan to evaluate different treatment durations to determine the optimal finite duration of therapy. We plan to continue this iterative process until we select combination therapy regimens and treatment durations to conduct Phase III clinical trials intended to ultimately support regulatory filings for marketing approval. Our pipeline of HBV product candidates includes:

We intend to continue to expand our HBV pipeline through internal development, acquisitions and in-licenses. We also have a research collaboration agreement with The Baruch S. Blumberg Institute, a non-profit research institute established by the Hepatitis B Foundation, that provides exclusive rights to in-license any intellectual property generated through the collaboration. For more information about this agreement please refer to the “Strategic Alliances, Licensing Agreements, and Research Collaborations” section of this annual report on Form 10-K below.

RNAi (ARB-1467 & ARB-1740)

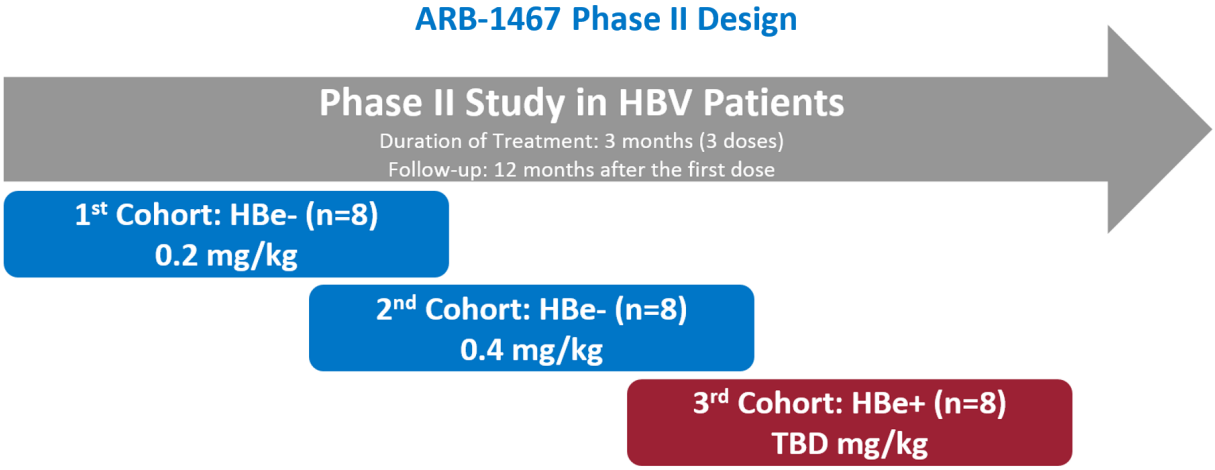
The development of RNA Interference (RNAi) drugs allows for a completely novel approach to treating disease, which is why RNAi is considered one of the most promising and rapidly advancing frontiers in drug discovery. While there are no RNAi therapeutics approved for commercial use, there are a number of RNAi products currently in human clinical trials. RNAi products are broadly applicable as they can eliminate the production of disease-causing proteins from cells, creating opportunities for therapeutic intervention that have not been achievable with conventional drugs. Our extensive experience in antiviral drug development has been applied to our RNAi program to develop therapeutics for chronic hepatitis B infection. Small molecule nucleotide therapy has been the standard of care for chronic HBV infected patients. However, many of these patients continue to express a viral protein called HBV surface antigen (HBsAg). This protein causes inflammation in the liver leading to cirrhosis and, in some cases, HCC and death.

Our lead RNAi HBV candidate, ARB-1467 (formerly TKM-HBV), is designed to eliminate HBsAg expression in patients chronically infected with HBV. Reducing HBsAg is thought to be a key prerequisite to enable a patient's immune system to raise an adequate immune response against the virus. The ability of ARB-1467 to inhibit numerous viral elements in addition to HBsAg increases the likelihood of affecting the viral infection. ARB-1467 is being developed as a multi-component (3-trigger) RNAi therapeutic that simultaneously targets three sites on the HBV genome, including the HBsAg coding region. Targeting three distinct and highly conserved sites on the HBV genome is intended to facilitate potent knockdown of all viral mRNA transcripts and viral antigens across a broad range of HBV genotypes and reduce the risk of developing antiviral resistance.



ARB-1467 results in potent and rapid reduction in HBsAg in several preclinical models. In these models, ARB-1467 treatment resulted in reductions in both intrahepatic and serum HBsAg, as well as reductions in HBV DNA, cccDNA, Hepatitis B e antigen (HBeAg) and HBcAg (Hepatitis B c antigen). A rapid 1 log reduction in serum HBsAg was achieved with a single 1 mg/kg dose of ARB-1467 in the humanized mouse model. 1-2 log viral reductions from similar single-dose LNP treatments in two other true-infection animal models were also demonstrated. Preclinical studies conducted on infected primary human hepatocytes showed that ARB-1467 had robust and consistent activity against different viral strains representing the major clinical genotypes A, B, C and D. Our data shows that inclusion of three RNAi triggers results in a more broadly effective knockdown of hepatitis B viral elements than a single trigger alone. The mode of action of ARB-1467 complements standard of care nucleoside/nucleotide (NUC) therapy, and lack of drug antagonism has been demonstrated with entecavir, lamivudine and tenofovir on infected primary human hepatocytes, making combination therapy a viable option. This data was presented at the DIA/FDA Oligonucleotide-Based Therapeutics Conference in Washington, DC, in September 2015. We presented additional data at the 2015 International Meeting on Molecular Biology of Hepatitis B Viruses in Dolce Bad Nauheim, Germany, in October 2015, and at the 2015 AASLD Liver Meeting in San Francisco in November 2015.

In early 2015, we advanced two RNAi product candidates (ARB-1467 and ARB-1468) into a Phase I Single Ascending Dose (SAD) trial. Both product candidates employ the same unique combination of three RNAi trigger molecules; however, they differ in their LNP composition. ARB-1467 employs a third generation LNP, and ARB-1468 employs a new, fourth generation LNP, which incorporates novel lipid chemistry and demonstrates improved potency in preclinical studies. The Phase I clinical trial is a randomized, single-blind, placebo-controlled study, involving single ascending doses of ARB-1467 and ARB-1468. The study is assessing the safety, tolerability and pharmacokinetics of intravenous administration of two LNP formulations (third and fourth generation) of the product in healthy adult subjects. In order to enable maximum dose escalation, steroid premedication was added to the Phase I protocol. No dose limiting toxicities were seen with either formulation through 0.4mg/kg, the highest dose tested in Phase I. At this time, a maximum tolerated dose has not been reached and the protocol has been amended to allow evaluation of higher doses. ARB-1467 was selected to progress to a Phase II multi-dosing study in HBV infected patients.



The Phase II study evaluates two dose levels of ARB-1467 administered as three monthly doses in chronic HBV infected patients who are on stable background nucleot(s)ide analog therapy. Eight subjects will be enrolled in each of the two dose cohorts with six subjects receiving ARB-1467, and two receiving placebo. The ARB-1467 Phase II multi-dosing study has been initiated and single dose and multi-dose HBsAg reduction data are expected in the second half of 2016.

While we are focused on development of our lead HBV product candidates, we believe in continuous innovation and will incorporate technological and product design advancements that may result in an improvement in safety and/or efficacy. An example of this is our follow-on RNAi HBV candidate, ARB-1740. ARB-1740 is more potent than ARB-1467 in preclinical studies and has the potential to be effective at lower clinical doses than ARB-1467. ARB-1740 employs the same LNP formulation as ARB-1467 (with a different set of three RNAi triggers). We plan to file an IND (or equivalent filing) for ARB-1740 in the second half of 2016.

cccDNA Formation Inhibitors

We are developing small molecule cccDNA formation inhibitors. The inhibition of cccDNA formation is expected to reduce the amount of cccDNA in the infected liver by blocking the formation of new cccDNA. We acquired the exclusive, worldwide rights to this program through an in-license from the Blumberg Institute. We have made significant progress with the discovery of potent and small molecule cccDNA formation inhibitors. As presented at the 2015 International Meeting on Molecular Biology of Hepatitis B Viruses in October 2015, our cccDNA formation inhibitors demonstrate synergy with approved nucleot(s)ide analogs in preclinical models, which could lead to faster declines in cccDNA levels in patients than is seen with nucleot(s)ide analogs alone. We plan to file an IND (or equivalent filing) for our lead cccDNA formation inhibitor in the second half of 2016.

Core Protein/ Capsid Assembly Inhibitors

HBV core protein, or capsid, is required for viral replication and core protein may have additional roles in cccDNA function. Current nucleot(s)side analog therapy significantly reduces serum HBV DNA levels in the serum but significant HBV replication continues in the liver, thereby enabling HBV infection to persist. Effective therapy for patients requires new agents which will effectively block viral replication. We are developing core protein inhibitors (also known as capsid assembly inhibitors) as oral therapeutics for the treatment of chronic HBV infection. By inhibiting assembly of the viral capsid, the ability of hepatitis B virus to replicate is impaired, resulting in reduced cccDNA. We acquired exclusive, worldwide rights to these drug candidates through an in-license from Blumberg and Drexel University, or (“Drexel”), and through Arbutus Inc.’s acquisition of Enantigen Therapeutics, Inc. (“Enantigen”). We plan to file an IND (or equivalent filing) for our lead candidate in the second half of 2016.

TLR9 Agonist (ARB-1598)

Immune stimulation by toll-like receptor (TLR) agonists may overcome the immunologic blocks that allow chronic HBV persistence, including direct activation of the host's innate antiviral response. Licensed from Cytos Biotechnology Ltd., ("Cytos"), ARB-1598 (formerly CYT003) is a biological carrier which is filled with the immunostimulatory oligonucleotide called G10, a TLR-9 agonist. ARB-1598 has been shown to directly activate B cells and stimulates human plasmacytoid dendritic cells to secrete Interferon alpha, and has previously been utilized in human trials in other indications. ARB-1598 also activates other antigen presenting cells indirectly and promotes the development of TH1 type cytokine response, which is thought to be potentially beneficial in promoting anti-HBV T cell immunity. ARB-1598 is undergoing preclinical evaluation to establish its utility for HBV, and if there is a clear support for this application, we plan to initiate clinical development of ARB-1598 in chronically infected HBV patients in 2016.

Other Research Programs

Surface Antigen Secretion Inhibitors

We are developing multiple small molecule orally bioavailable inhibitors of HBV surface antigen production and secretion. By inhibiting the production and secretion of HBV surface antigen from infected cells, we expect that the immune response of patients treated with this therapy can reengage and thereby mount a more credible response to a hepatitis B virus infection.

cccDNA Epigenetic Modifiers

In addition to cccDNA formation inhibitors, we are developing cccDNA epigenetic modifiers. By controlling cccDNA transcription, we anticipate that we may be able to inhibit the formation of new virus and sub viral particles from cccDNA. This development program, which is currently in the discovery research stage, is based on proof of concept data generated by Blumberg using known inhibitors of enzymes involved in DNA information processing.

STING Agonists

We are developing stimulator of interferon genes (STING) agonists. By activating interferon genes, we anticipate that the body can produce additional interferon alpha and beta, which have antiviral properties. Our development program, which is currently in the discovery research stage, is based on proof of concept data in mice generated by Blumberg which showed that STING agonists can elicit an antiviral response and inhibit HBV replication in mouse liver cells. In collaboration with Blumberg, our plan is to identify potent, orally active small molecule human STING agonists that possess the desired characteristics to progress into human clinical studies.

Cyclophilin Inhibitor (OCB-030)

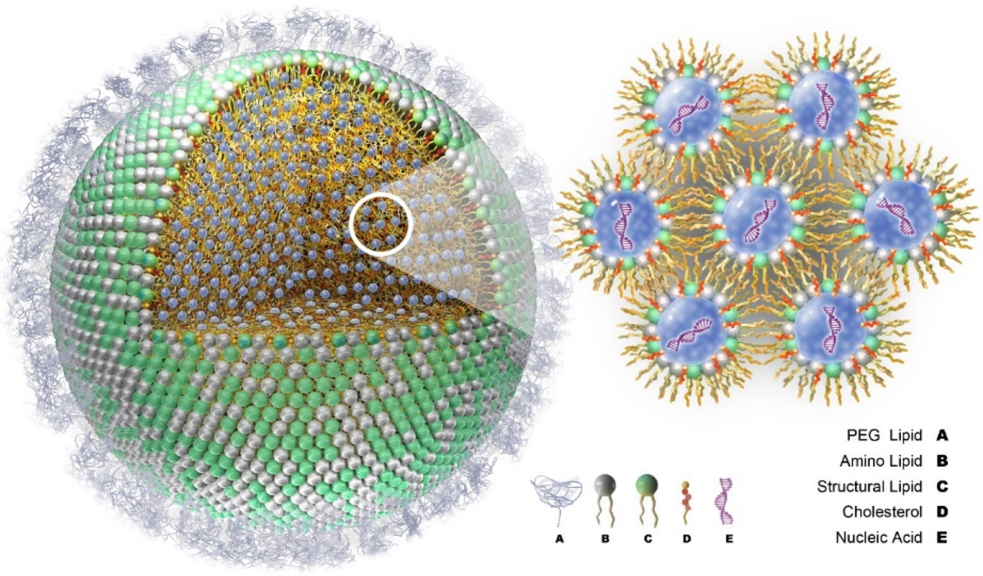
We licensed from NeuroVive Pharmaceutical AB, or (NeuroVive), the exclusive rights to develop and commercialize cyclophilin inhibitor drug candidates, including OCB-030, for the treatment of hepatitis B. After extensive preclinical evaluation of OCB-030 and other competitive cyclophilin inhibitors against HBV, we have concluded that cellular cyclophillins do not play a role in HBV chronic infection and further development of OCB-030 is unwarranted. As a result, we made the decision in October 2015 to discontinue the development of OCB-030 and have suspended our interest in the cyclophilin inhibitor class.

Our Proprietary Delivery Technology

Development of RNAi therapeutic products is currently limited by the instability of the RNAi trigger molecules in the bloodstream and the inability of these molecules to access target cells or tissues following administration. Delivery technology is necessary to protect these drugs in the bloodstream to allow efficient delivery and cellular uptake by the target cells. Arbutus has developed a proprietary delivery platform called Lipid Nanoparticle, or LNP. The broad applicability of this platform to RNAi development has established Arbutus as a leader in this new area of innovative medicine.

Our proprietary LNP delivery technology allows for the successful encapsulation of RNAi trigger molecules in LNP administered intravenously, which travel through the bloodstream to target tissues or disease sites. LNPs are designed to protect the triggers, and stay in the circulation long enough to accumulate at disease sites, such as the liver or cancerous tumors. LNPs are then taken up into the target cells by a process called endocytosis. Subsequent activation by the changing environment inside the cell causes the LNP to release the trigger molecules, which can then successfully mediate RNAi.

Arbutus' LNP Technology



Ongoing Advancements in LNP Technology

Our LNP technology represents the most widely adopted delivery technology in RNAi, which has enabled several clinical trials and has been administered to hundreds of human subjects. Because LNP can enable a wide variety of nucleic acid triggers, including mRNA, we continue to see new product development and partnering opportunities based on our industry-leading delivery expertise and intellectual property. We presented preclinical data in October 2013 at the International mRNA Health Conference in Tubingen, Germany, and in February 2014 at the AsiaTIDES Conference in Toyko, Japan. This data demonstrated that mRNA encapsulated and delivered using our proprietary LNP technology can be effectively delivered and expressed in the liver in tumors and other specific tissues of therapeutic interest.

Arbutus continues to explore opportunities to generate value from its LNP platform technology, which is well suited to deliver therapies based on RNAi, mRNA, gene editing, as well as other technologies.

Suspended Non-HBV RNAi Assets

Our intent is to focus our efforts on discovering, developing and commercializing a cure for patients suffering from chronic HBV infection. As such, pending completion of ongoing studies associated with TKM-PLK1, we have suspended further development of our non-HBV assets and are exploring different strategic options to maximize the value of these assets. Our non-HBV assets include our LNP-based product candidates TKM-PLK for oncology, TKM-Ebola and TKM-Marburg for hemorrhagic fever viruses, TKM-HTG for metabolic disorders, and TKM-ADLH for severe alcohol use disorder.

Oncology (TKM-PLK1)

Our oncology product platform, TKM-PLK1, targets PLK1, a protein involved in tumor cell proliferation and a validated oncology target. Inhibition of PLK1 expression prevents the tumor cell from completing cell division, resulting in cell cycle arrest and death of the cancer cell. Evidence that patients with elevated levels of PLK1 in their tumors exhibit poorer prognosis and survival rates has been documented in the medical literature. TKM-PLK1 is being evaluated in the following oncology indications where there are limited or ineffective therapies available: Gastrointestinal Neuroendocrine Tumors (GI-NET), Adrenocortical Carcinoma (ACC) and Hepatocellular Carcinoma (HCC). We are exploring partnering or external funding opportunities to maximize the value of our oncology related assets.

TKM-PLK1: GI-NET and ACC

GI-NET is the gastrointestinal subset of neuroendocrine tumors with an estimated U.S. prevalence of 55,000 individuals. Prognosis for advanced or metastatic GI-NET, the target population for TKM-PLK1, is poor with 25-54% of patients surviving less than one year. ACC is an extremely rare form of cancer that develops in the adrenal gland. Data from the U.S. National Cancer Institute indicates there are approximately 500 patients in the U.S. with ACC. Survival prognosis for patients with ACC is poor. A large percentage of patients are not good surgical candidates and there is a lack of effective systemic therapies.

We presented Phase I TKM-PLK1 data at the 6th and 8th Annual NET Conferences hosted by the North American Neuroendocrine Tumor Society (NANETS) in October 2013 and October 2015. Based on encouraging results from the dose escalation portion and expansion cohort from our Phase I TKM-PLK1 clinical trial, we expanded into a Phase I/II clinical trial with TKM-PLK1, which enrolled patients within the two therapeutic indications: advanced GI-NET or ACC. This multi-center, single arm, open label study was designed to measure efficacy using RECIST criteria for GI-NET patients and ACC patients as well as evaluate the safety, tolerability and pharmacokinetics of TKM-PLK1 in a population of 63 subjects with advanced solid tumors, including 15 subjects with GI-NET. TKM-PLK1 was administered weekly with each four-week cycle consisting of three once-weekly doses followed by a rest week. We provided an update on the Phase I/II GI-NET clinical study in October 2015 at the NANETS conference.

In the GI-NET population, one subject, a "remarkable responder" had a maximal 61.1% decrease in target tumor at cycle 2. This subject remained on-study for 10 cycles and the partial tumor response (PR) was stable throughout this period. Twelve of 13 evaluable subjects had a best response of stable disease (SD) or PR. Duration of SD/PR ranged from two to 14 cycles. In the ACC population one subject, a "remarkable responder" had a maximal 48.7% decrease in target tumor at cycle 14. After 18 cycles, the residual tumor was resected and histopathology showed near-complete necrosis, at which time the subject discontinued the study. Five of eight evaluable subjects had a best response of SD or PR. Duration of SD/PR ranged from two to 18 cycles. Therapy with TKM-PLK1 was received for up to 18 months and was generally well tolerated by the majority of subjects. The TKM-PLK1 GI-NET/ACC trial has concluded.

TKM-PLK1: HCC

HCC is one of the most common cancers, one of the most deadly and a common outcome of chronic HBV infection, with over 650,000 deaths each year worldwide according to the Globocan 2012 database. US incidence is estimated at 27,000 individuals with annual growth rates greater than 2%. HCC is an aggressive, hard-to-treat disease with one-year survival rates of less than 50% and five-year rates as low as 4% (National Cancer Institute). To date, Nexavar (sorafenib) is the only agent approved to treat HCC with an improvement in overall survival of just two to three months.

In June 2014, we initiated another Phase I/II clinical trial with TKM-PLK1, enrolling patients with advanced HCC. Patient dosing has commenced and we have completed the dose escalation portion of this trial. This Phase I/II clinical trial is a multi-center, single arm, open label dose escalation study designed to evaluate the safety, tolerability and pharmacokinetics of TKM-PLK1 as well as determine the maximum tolerated dose in patients with advanced inoperable HCC. It will also include a preliminary assessment of the anti-tumor activity of TKM-PLK1 in this patient population. In August 2015 we announced initiation of patient dosing in the expansion cohort of the clinical trial at multiple sites in Canada, the United States and Asia, and have since completed enrollment. An assessment of efficacy in terms of tumor response in approximately 20 subjects will take place upon trial completion and results are expected in 2016.

Other Infectious Diseases (TKM-Ebola and TKM-Marburg)

We have suspended further development of our RNAi product candidates targeting filoviruses Ebola and Marburg. In December 2014, the U.S. Congress amended the FDA Priority Review Voucher (PRV) Program Act to add filoviruses as a candidate for a PRV. We are exploring partnering or external funding opportunities to maximize the value of these assets.

TKM-Ebola-Kikwit has been developed under a $140 million contract with the U.S. Department of Defense (DoD) awarded in July 2010. Given the unclear development path for TKM-Ebola, development activities have been suspended and the contract with the DoD has been terminated. TKM-Ebola-Kikwit completed the single ascending dose portion of the Phase I clinical trial in healthy human volunteers. Results demonstrated that administration of the TKM-Ebola-Kikwit therapeutic, in the absence of any steroid containing pre-medication, was well-tolerated at a dose level of 0.3 mg/kg, determined to be the maximum tolerated dose. Under the FDA's expanded access program, several patients with a confirmed or suspected Ebola virus infection were treated with TKM-Ebola-Kikwit during the ebola outbreak in 2014. In March 2015, a TKM-Ebola-Guinea Phase II single arm trial called Rapid Assessment of Potential Interventions & Drugs for Ebola (RAPIDE) was initiated in Sierra Leone, led by the International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC) at the University of Oxford, UK, with funding from the Wellcome Trust. In June 2015 we announced closing of the enrollment for the trial as it reached a futility boundary, which was a predefined statistical endpoint. The results of the study have been submitted for publication and the manuscript is under review.

We have several publications related to our Ebola and Marburg RNAi therapeutic candidates. In April 2015, we, along with our collaborators at the University of Texas Medical Branch (UTMB) at Galveston, USA, published positive Ebola treatment data in the journal Nature (Thi EP., et al.; Nature, April 2015). Data demonstrated 100% survival of nonhuman primates previously infected with the West African Makona strain of Ebola virus even when treatment did not begin until three days after viral exposure a time point at which animals were five to six days away from death. These efficacy results are comparable to those obtained with TKM-Ebola-Kikwit, which also demonstrated up to 100% protection from an otherwise lethal dose of the virus. We have published data demonstrating complete protection of non-human primates against lethal Marburg-Angola strain, (Thi EP., *et al.*; Science Translational Medicine, Aug 2014). Selected data from these programs was presented at the Chemical and Biological Defense Science and Technology Conference in May 2015.

Metabolic Disorders (TKM-HTG)

TKM-HTG is a multi-component RNAi therapeutic that simultaneously targets a combination of genes expressed in the liver, which are known to play a significant role in triglyceride metabolism. High triglyceride levels are medically linked to increased risk of cardiovascular disease, fatty liver disease, insulin resistance and pancreatitis. Approximately one million adults in the US and 18 million worldwide suffer from severe HTG. (NHANES 2003-2004 data). Another patient group affected by HTG are those with Familial Chylomicronemia Syndrome (FCS), which is a very rare hereditary condition affecting an estimated 1:1,000,000 people (www.fcs.raredr.com). Additionally, 35% of patients with Type 2 Diabetes (T2D) suffer from mixed hyperlipidemia which is a combination of elevated cholesterol and high triglycerides. With underlying T2D, these patients are at considerable risk from cardiovascular disease. We are exploring partnering or external funding opportunities to maximize the value of this asset.

Alcohol Use Disorder (TKM-ALDH)

TKM-ALDH is designed to knockdown or silence aldehyde dehydrogenase (ALDH) to induce long term acute sensitivity to ethanol, for use in severe alcohol use disorder. Aldehyde dehydrogenase is a key enzyme in ethanol metabolism. Inhibition of ALDH activity, through the silencing of ALDH, results in the build-up of acetaldehyde leading to adverse physiological effects. Human proof of concept for ALDH inhibition already exists in the form of the approved drug disulfiram. However, disulfiram's efficacy is compromised by poor compliance because it has to be taken daily. We believe TKM-ALDH will induce prolonged ethanol sensitivity that will enable it to overcome the compliance limitations associated with daily dosing. We are exploring partnering or external funding opportunities to maximize the value of this asset.

Partner Programs

Patisiran (ALN-TTR02)

Alnylam Pharmaceuticals, Inc., or Alnylam, has a license to use our intellectual property (IP) to develop and commercialize products and may only grant access to our LNP technology to its partners if it is part of a product sublicense. Alnylam's license rights are limited to patents that we have filed, or that claim priority to a patent that was filed, before April 15, 2010. Alnylam does not have rights to our patents filed after April 15, 2010 unless they claim priority to a patent filed before that date. Alnylam will pay us low single digit royalties as Alnylam's LNP-enabled products are commercialized. More information about our licensing agreement with Alnylam can be found under the "Strategic Alliances, Licensing Agreements, and Research Collaborations" section of this report.

In April 2014, Alnylam presented positive new data from its Phase II clinical trial with patisiran, an RNAi therapeutic targeting transthyretin (TTR) for the treatment of TTR-mediated amyloidosis (ATTR). These results provide additional support for Alnylam's Phase III APOLLO trial. In October 2014, Alnylam reported positive clinical data for the ongoing patisiran Phase II Open Label Extension (OLE) study in patients with Familial Amyloidotic Polyneuropathy (FAP). The results demonstrated sustained knockdown of serum TTR of up to 90% and a favorable tolerability profile out to one year of treatment. In April 2015, Alnylam announced positive data from the ongoing open-label study with patisiran which demonstrated continued evidence for possible halting of neuropathy progression after the first 12 months of treatment. In addition, patisiran treatment showed robust mean knockdown of serum TTR of up to 88%. Alnylam's ongoing OLE study is an open-label, multi-center trial designed to evaluate the long-term safety and tolerability of patisiran administration in FAP patients that were previously enrolled in a Phase II study. In July 2015, Alnylam announced initiation of a Phase III open label OLE study with patisiran (APOLLO-OLE) to evaluate the long-term safety and tolerability of patisiran in ATTR amyloidosis patients with FAP who were previously enrolled in the APOLLO Phase III study. In September 2015, Alnylam reported evidence of reduced pathogenic, misfolded TTR monomers and oligomers in TTR-mediated amyloidosis patients with FAP, and in November 2015 it reported that patisiran demonstrates continued evidence for potential halting of neuropathy progression and improvement in nerve fiber density in patients with FAP. New Drug Application (NDA) filing for this program is expected in 2017.

The patisiran program represents the most clinically advanced application of our LNP delivery technology. Furthermore, Alnylam’s results demonstrate that multi-dosing with our LNP has been well-tolerated with treatments out to 21 months.

Marqibo®

Marqibo®, originally developed by Arbutus, is a novel, sphingomyelin/cholesterol liposome-encapsulated formulation of the FDA-approved anticancer drug vincristine. Marqibo’s approved indication is for the treatment of adult patients with Philadelphia chromosome-negative acute lymphoblastic leukemia (Ph-ALL) in second or greater relapse or whose disease has progressed following two or more lines of anti-leukemia therapy. Our licensee, Spectrum Pharmaceuticals, Inc. (Spectrum), launched Marqibo through its existing hematology sales force in the United States. We are entitled to mid-single digit royalty payments based on Marqibo’s commercial sales. Spectrum has ongoing trials evaluating Marqibo in three additional indications, which are: first line use in patients with Philadelphia Negative Acute Lymphoblastic Leukemia (Ph-ALL), Pediatric ALL and Non-Hodgkin’s lymphoma. More information about our licensing agreement with Spectrum can be found under the “Strategic Alliances, Licensing Agreements, and Research Collaborations” section of this report.

DCR-PH1

In November 2014, we signed a licensing and collaboration agreement with Dicerna Pharmaceuticals, Inc. to utilize our LNP delivery technology exclusively in Dicerna's primary hyperoxaluria type 1 (PH1) development program. Dicerna will use our third generation LNP technology for delivery of DCR-PH1, Dicerna's product incorporating its Dicer substrate RNA (DsiRNA) molecule, for the treatment of PH1, a rare, inherited liver disorder that often results in kidney failure and for which there are no approved therapies. In December 2015, Dicerna announced initiation of dosing in healthy volunteers with plans to initiate the Phase I clinical trial in patients with PH1 in 2016. More information about our licensing agreement with Dicerna can be found under the “Strategic Alliances, Licensing Agreements, and Research Collaborations” section of this report.

Strategic Alliances, Licensing Agreements, and Research Collaborations

Alnylam Pharmaceuticals, Inc.

Alnylam has a license to use our IP to develop and commercialize products and may only grant access to our LNP technology to its partners if it is part of a product sublicense. Alnylam’s license rights are limited to patents that we have filed, or that claim priority to a patent that was filed, before April 15, 2010. Alnylam does not have rights to our patents filed after April 15, 2010 unless they claim priority to a patent filed before that date. Alnylam will pay low single digit royalties as Alnylam’s LNP-enabled products are commercialized. Alnylam currently has three LNP-based products in clinical development: ALN-TTR02 (patisiran), ALN-VSP, and ALN-PCS02.

Our licensing agreement with Alnylam grants us IP rights for the development and commercialization of RNAi therapeutics for specified targets. In consideration for these three exclusive and 10 non-exclusive licenses, we have agreed to pay single-digit royalties to Alnylam on product sales, with milestone obligations of up to $8.5 million on the non-exclusive licenses and no milestone obligations on the three exclusive licenses.Alnylam has also pursued two other LNP-based products through clinical development: ALN-VSP (liver cancer), and ALN-PCS02 (hypercholesterolemia). Alnylam will pay Arbutus low single digit royalties based on commercial sales of Alnylam’s LNP-enabled products.

We entered an arbitration proceeding with Alnylam, as provided for under our licensing agreement, to resolve a matter related to a disputed $5 million milestone payment to Arbutus from Alnylam related to its ALN-VSP product. The arbitration proceeding with Alnylam has concluded resulting in no milestone payment to Arbutus.

Acuitas Therapeutics Inc.

Consistent with the terms of the settlement agreement signed in November 2012, we finalized and entered a cross-license agreement with Acuitas Therapeutics Inc., or Acuitas in December 2013. The terms of the cross-license agreement provide Acuitas with access to certain of our earlier IP generated prior to April 2010. At the same time, the terms provide us with certain access to Acuitas' technology and licenses in the RNAi field, along with a percentage of each milestone and royalty payment with respect to certain products. Acuitas has agreed that it will not compete in the RNAi field for a period of five years, ending in November 2017.

Merck & Co., Inc. and Alnylam License Agreement

As a result of the settlement between Protiva Biotherapeutics, Inc. (Protiva), and Merck & Co., Inc. in 2008, we acquired a non-exclusive royalty-bearing world-wide license agreement with Merck. Under the license, Merck will pay up to $17 million in milestones for each product they develop covered by our IP, except for the first product for which Merck will pay up to $15 million in milestones, and will pay royalties on product sales. Merck's license rights are limited to patents that Protiva filed, or that claim priority to one of Protiva's patents that was filed, before October 9, 2008. Merck does not have rights to Protiva patents filed after October 9, 2008 unless they claim priority to a patent filed before that date. On March 6, 2014, Alnylam announced that they acquired all assets and licenses from Merck, which included our license agreement.

Dicerna Pharmaceuticals, Inc.

In November 2014, we signed a licensing agreement and a development and supply agreement with Dicerna to license our LNP delivery technology for exclusive use in Dicerna's PH1 development program. Dicerna will use Arbutus' third generation LNP technology for delivery of DCR-PH1, Dicerna's product incorporates its DsiRNA molecule, for the treatment of PH1, a rare, inherited liver disorder that often results in kidney failure and for which there are no approved therapies. Under the agreements, Dicerna paid Arbutus $2.5 million upfront and will potentially make payments of $22 million in aggregate development milestones, plus a mid-single-digit royalty on future PH1 sales. This partnership also includes a supply agreement under which we will provide clinical drug supply and regulatory support for the rapid advancement of this product candidate.

Monsanto Company

In January 2014, we signed an Option Agreement and a Service Agreement with Monsanto Company, or Monsanto, and granted Monsanto an option to obtain a license to use our proprietary LNP delivery technology. The transaction supports the application of LNP technology and related IP for use in agriculture. The potential value of the transaction could reach $86.2 million following the successful completion of milestones. In January 2014, we received $14.5 million of the $17.5 million in near term payments. We received additional payments of $1.5 million each in June 2014 and October 2014 following the achievement of specific program objectives. In May 2015, the arrangement was amended to extend the option period by approximately five months, with payments up to $2.0 million for the extension period. As of December 31, 2015, we have received $19.3 million. Following the completion of the Phase A extension period in October 2015, no further research activities were conducted under the arrangement, as Monsanto did not elect to proceed to Phase B of the research plan.

On March 4, 2016, Monsanto exercised its option to acquire 100% of the outstanding shares of Protiva Agricultural Development Company Inc., or PADCo, and will pay Arbutus an exercise fee of $1 million. As a result, PADCo is no longer an indirect wholly owned subsidiary of us. In connection with Monsanto's exercise of its option, on March 4, 2016, we entered into an amended Option Agreement. We also entered into an amended Service Agreement on March 4, 2016 to give effect to the grant back to Protiva of new intellectual property created by Monsanto in connection with the exercise of its option. In addition, we entered into an amended License and Services Agreement to recognize Monsanto's early exercise of option before Protiva'a completion of Phases B and C, and introduce a new Technology Transfer Completion Criteria through the amended Option Agreement. Each of the amended Option Agreement, amended License and Services Agreement and amendment to the Service Agreement have been filed as Exhibits to this annual report on Form 10-K.

Spectrum Pharmaceuticals, Inc.

In September 2013, we announced that our licensee, Spectrum, had launched Marqibo® through its existing hematology sales force in the United States. Since then commercial sales have occurred. Arbutus is entitled to mid-single digit royalty

payments based on Marqibo®'s commercial sales. Marqibo®, which is a novel sphingomyelin/cholesterol liposome-encapsulated formulation of the FDA-approved anticancer drug vincristine, was originally developed by Arbutus. We out-licensed the product to Talon Therapeutics in 2006, and in July 2013, Talon was acquired by Spectrum. Marqibo®'s approved indication is for the treatment of adult patients with Philadelphia chromosome-negative acute lymphoblastic leukemia (Ph-ALL) in second or greater relapse or whose disease has progressed following two or more lines of anti-leukemia therapy. Spectrum has ongoing trials evaluating Marqibo® in three additional indications, which are: first line use in patients with Ph-ALL, Pediatric ALL and Non-Hodgkin's lymphoma.

Marina Biotech, Inc. /Arcturus Therapeutics, Inc.

In November 2012, we disclosed that we had obtained a worldwide, non-exclusive license to a novel RNAi trigger technology called Unlocked Nucleobase Analog (UNA) from Marina Biotech Inc., or Marina, for the development of RNAi therapeutics. UNAs can be incorporated into RNAi drugs and have the potential to improve them by increasing their stability and reducing off-target effects. In August 2013, Marina assigned its UNA technology to Arcturus Therapeutics, Inc., or Arcturus, and the UNA license agreement between us and Marina was assigned to Arcturus. The terms of the license are otherwise unchanged.

To date, we have paid Marina $0.5 million in license fees and there are milestones of up to $3.2 million plus royalties for each product that we develop using UNA technology licensed from Marina. We announced on January 21, 2015, that we had initiated a Phase I clinical trial with TKM-HBV (RNAi). As TKM-HBV utilizes UNA technology in-licensed from Arcturus, the initiation of the trial triggered a single milestone payment of $250,000 payable by us to Arcturus.

U.S. National Institutes of Health

On October 13, 2010 we announced that together with collaborators at the University of Texas Medical Branch (UTMB), we were awarded a new NIH grant, worth $2.4 million, to support research to develop RNAi therapeutics to treat Ebola and Marburg hemorrhagic fever viral infections using our LNP delivery technology. In February 2014, we along with UTMB and other collaborators were awarded additional funding of $3.4 million over five years from the NIH in support of this research.

Bristol-Myers Squibb Company

In May 2010, we announced a research collaboration with Bristol-Myers Squibb Company, BMS. Under this agreement, BMS conducted preclinical work to validate the function of certain genes and shared the data with us to potentially develop RNAi therapeutic drugs against therapeutic targets of interest. We formulated the required RNAi trigger molecules enabled by our LNP technology to silence target genes of interest. BMS paid us $3.0 million concurrent with the signing of the agreement. We provided a predetermined number of LNP batches over the four-year agreement. In May 2011, we announced a further expansion of the collaboration to include broader applications of our LNP technology and additional target validation work. In May 2014, the collaboration expired and all parties' obligations ended.

Halo-Bio RNAi Therapeutics, Inc.

In August 2011, we entered into a license and collaboration agreement with Halo-Bio RNAi Therapeutics, Inc., or Halo-Bio. Under the agreement, Halo-Bio granted to us an exclusive license to its multivalent ribonucleic acid MV-RNA technology. The agreement was amended on August 8, 2012, to adjust future license fees and other contingent payments. To date, we have recorded $0.5 million in fees under our license from Halo-Bio. We terminated the agreement with Halo-Bio on July 31, 2013. There are no further payments due or contingently payable to Halo-Bio.

Aradigm Corporation

In December 2004, we entered into a licensing agreement with Aradigm Corporation, or Aradigm, under which Aradigm exclusively licensed certain of our liposomal intellectual property for the pulmonary delivery of Ciprofloxacin. As amended, this agreement calls for milestone payments totalling $4.5 and $4.75 million, respectively, for the first two disease indications pursued by Aradigm using our technology, and for low- to mid-single-digit royalties on sales revenue from products using our technology. We terminated the Aradigm license agreement in May 2013.

University of British Columbia

Certain early work on lipid nanoparticle delivery systems and related inventions was undertaken at the University of British Columbia, or UBC. These inventions are licensed to us by UBC under a license agreement, initially entered in 1998 as

amended in 2001, 2006 and 2007. We have granted sublicenses under the UBC license to Alnylam as well as to Spectrum (Talon Therapeutics Inc., acquisition). Alnylam has in turn sublicensed back to us under the licensed UBC patents for discovery, development and commercialization of RNAi products. In mid-2009, we and our subsidiary Protiva entered into a supplemental agreement with UBC, Alnylam and Acuitas Technologies, Inc., in relation to a separate research collaboration to be conducted among UBC, Alnylam and Acuitas to which we have license rights. The settlement agreement signed in late 2012 to resolve the litigation among Alnylam, Acuitas, Arbutus and Protiva provided for the effective termination of all obligations under such supplemental agreement as between and among all litigants.

On November 10, 2014, the University of British Columbia filed a demand for arbitration against Arbutus Biopharma Corp., BCICAC File No.: DCA-1623. We received UBC's Statement of Claims on January 16, 2015. In its Statement of Claims, UBC alleges that it is entitled to $3.5 million in allegedly unpaid royalties based on publicly available information, and an unspecified amount based on non-public information. UBC also seeks interest and costs, including legal fees. We dispute UBC's allegation. No dates have been scheduled for this arbitration.

Cytos Biotechnology Ltd

On December 30, 2014, Arbutus Inc., our wholly owned subsidiary, entered into an exclusive, worldwide, sub-licensable (subject to certain restrictions with respect to licensed viral infections other than hepatitis) license to six different series of compounds from Cytos Biotechnology Ltd., or Cytos. The licensed compounds are Qbeta-derived virus-like particles that encapsulate TLR9, TLR7 or RIG-I agonists and may or may not be conjugated with antigens from the hepatitis virus or other licensed viruses. We have an option to expand this license to include additional viral infections other than influenza and Cytos will retain all rights for influenza, all non-viral infections, and all viral infections (other than hepatitis) for which we have not exercised an option.

In partial consideration for this license, we will be obligated to pay Cytos up to a total of $67 million for each of the six licensed compound series upon the achievement of specified development and regulatory milestones; for hepatitis and each additional licensed viral infection, up to a total of $110 million upon the achievement of specified sales performance milestones; and tiered royalty payments in the high-single to low-double digits, based upon the proportionate net sales of licensed products in any commercialized combination.

The Baruch S. Blumberg Institute and Drexel University

In February 2014, Arbutus Inc., our wholly owned subsidiary, entered into a license agreement with The Blumberg S. Blumberg Institute, or Blumberg, and Drexel University, or Drexel, that granted an exclusive (except as to certain know-how and subject to retained non-commercial research rights), worldwide, sub-licensable license to three different compound series: cccDNA inhibitors, capsid assembly inhibitors and HCC inhibitors.

In partial consideration for this license, Arbutus Inc. paid a license initiation fee of $150,000 and issued warrants to Blumberg and Drexel. No warrants were outstanding as at the date Arbutus merged with Arbutus Inc. Under this license agreement, Arbutus Inc. also agreed to pay up to $3.5 million in development and regulatory milestones per licensed compound series, up to $92.5 million in sales performance milestones per licensed product, and royalties in the mid-single digits based upon the proportionate net sales of licensed products in any commercialized combination. We are obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from the sub-licensees, subject to customary exclusions.

In November 2014, Arbutus Inc. entered into an additional license agreement with Blumberg and Drexel pursuant to which it received an exclusive (subject to retained non-commercial research rights), worldwide, sub-licensable license under specified patents and know-how controlled by Blumberg and Drexel covering epigenetic modifiers of cccDNA and STING agonists. In consideration for these exclusive licenses, Arbutus Inc. made an upfront payment of $50,000. Under this agreement, we will be required to pay up to $1.0 million for each licensed product upon the achievement of a specified regulatory milestone and a low single digit royalty, based upon the proportionate net sales of compounds covered by this intellectual property in any commercialized combination. We are also obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from its sub-licensees, subject to exclusions.

License Agreements between Enantigen and Blumberg and Drexel

In October 2014, Arbutus Inc., our wholly owned subsidiary, acquired all of the outstanding shares of Enantigen Therapeutics, Inc., or Enantigen, pursuant to a stock purchase agreement. Through this transaction, Arbutus Inc. acquired a HBV surface antigen secretion inhibitor program and a capsid assembly inhibitor program, each of which are now assets of Arbutus, following our merger with Arbutus Inc.

Under the stock purchase agreement, we agreed to pay up to a total of $21.0 million to Enantigen's selling stockholders upon the achievement of specified development and regulatory milestones, for the first two products that contain either a capsid compound, or a HBV surface antigen compound that is covered by a patent acquired under this agreement; or a capsid compound from an agreed upon list of compounds. The amount paid could be up to a total of $102.5 million in sales performance milestones in connection with the sale of the first commercialized product by us for the treatment of HBV, regardless of whether such product is based upon assets acquired under this agreement; and low single digit royalty on net sales of such first commercialized HBV product, up to a maximum royalty payment of $1.0 million that, if paid, would be offset against our milestone payment obligations.

Under the stock purchase agreement, we also agreed that Enantigen would fulfill its obligations as they relate to the three patent license agreements with Blumberg and Drexel. Pursuant to each patent license agreement, Enantigen is obligated to pay Blumberg and Drexel up to approximately $500,000 in development and regulatory milestones per licensed product, royalties in the low single digits, and a percentage of revenue it receives from its sub-licensees.

Research Collaboration and Funding Agreement with Blumberg

In October 2014, Arbutus Inc., our wholly owned subsidiary, entered into a research collaboration and funding agreement with Blumberg under which we will provide $1.0 million per year of research funding for three years, renewable at our option for an additional three years, for Blumberg to conduct research projects in HBV and liver cancer pursuant to a research plan to be agreed upon by the parties. Blumberg has exclusivity obligations to Arbutus with respect to HBV research funded under the agreement. In addition, we have the right to match any third party offer to fund HBV research that falls outside the scope of the research being funded under the agreement. Blumberg has granted us the right to obtain an exclusive, royalty bearing, worldwide license to any intellectual property generated by any funded research project. If we elect to exercise our right to obtain such a license, we will have a specified period of time to negotiate and enter into a mutually agreeable license agreement with Blumberg. This license agreement will include the following pre negotiated upfront, milestone and royalty payments: an upfront payment in the amount of $100,000; up to $8.1 million upon the achievement of specified development and regulatory milestones; up to $92.5 million upon the achievement of specified commercialization milestones; and royalties at a low single to mid-single digit rates based upon the proportionate net sales of licensed products from any commercialized combination.

NeuroVive Pharmaceutical AB

In September 2014, Arbutus Inc., our wholly owned subsidiary, entered into a license agreement with NeuroVive that granted us an exclusive, worldwide, sub-licensable license to develop, manufacture and commercialize, for the treatment of HBV, oral dosage form sanglifehrin based cyclophilin inhibitors (including OCB-030). Arbutus Inc. became our wholly owned subsidiary by way of a Merger Agreement, which does not trigger any milestone payments. Under this license agreement we have been granted a non-exclusive, royalty free right and license and right of reference to NeuroVive's relevant regulatory approvals and filings for the sole purpose of developing, manufacturing and commercializing licensed products for the treatment of HBV. Under this license agreement, we have (1) an option to expand our exclusive license to include treatment of viral diseases other than HBV and (2) an option, exercisable upon specified conditions, to expand our exclusive license to include development, manufacture and commercialization of non-oral variations of licensed products for treatment of viral diseases other than HBV. NeuroVive retains all rights with respect to development, manufacture and commercialization of licensed products and non-oral variations of licensed products for all indications (other than HBV) for which we have not exercised our option.

In partial consideration for this license, Arbutus Inc. paid NeuroVive a license fee of $1 million. We have conducted significant research and analysis on the NeuroVive Product, OCB-030. Based on this research and analysis, we have decided to discontinue the OCB-030 development program. Otherwise, the license agreement and ongoing relationship with NeuroVive remains in full effect at this time.

Patents and Proprietary Rights

Our commercial success depends in part on our ability to obtain and maintain proprietary protection for our drug candidates, novel discoveries, product development technologies and other know-how, to operate without infringing on the proprietary rights of others and to prevent others from infringing our proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, filing or in licensing U.S. and foreign patents and patent applications related to our proprietary technology, inventions and improvements that are important to the development and implementation of our business. We also rely on trademarks, trade secrets, know how, continuing technological innovation and potential in licensing opportunities to develop and maintain our proprietary position.

In addition to our proprietary expertise, we own a portfolio of patents and patent applications directed to HBV cccDNA formation inhibitors, HBV core/capsid protein assembly inhibitors, TLR-9 agonists, HBV surface antigens secretion inhibitors, HBV cccDNA epigenetic modifiers, STING agonists, cyclophilin inhibitors, LNP inventions, LNP compositions for delivering nucleic acids such as mRNA and siRNA, the formulation and manufacture of LNP-based pharmaceuticals, chemical modification of RNAi molecules, and RNAi drugs and processes directed at particular disease indications. We have filed many patent applications with the US and European Patent Offices that have been granted. In the US our patents might be challenged by interference or opposition proceedings. In Europe, upon grant, a period of nine months is allowed for notification of opposition to such granted patents. If our patents are subjected to interference or opposition proceedings, we would incur significant costs to defend them. Further, our failure to prevail in any such proceedings could limit the patent protection available to our therapeutic HBV programs or RNAi platform, including our product candidates.

We have a portfolio of approximately 121 patent families, in the U.S. and abroad, that are directed to our therapeutic HBV product candidates and various aspects of LNPs and LNP formulations. The portfolio includes approximately 83 issued U.S. patents, approximately 100 issued non-U.S. patents, and approximately 350 pending patent applications, including the following patents and applications in the United States and Europe (1) :

Subject Matter	Status	Expiration Date*
LNP Compositions and Methods of Use (siRNA)	U.S. Pat. No. 7,982,027; applications pending in other jurisdictions	2024
LNP Compositions (interferingRNA)	U.S. Pat. No. 7,799,565; patents issued in other jurisdictions	2025
LNP Compositions (Nucleic Acid)	U.S. Pat. Nos. 8,058,069; 8,492,359 and 8,822,668; applications pending in other jurisdictions	2029
LNP Compositions and Methods of Use (PLK-1)	U.S. Pat. No.8,283,333; applications pending in other jurisdictions	2030
LNP Compositions (Nucleic Acid)	U.S. Pat. No. 9,006,417	2031
LNP Manufacturing Process	U.S. Pat. Nos. 7,901,708 and 8,329,070; European Pat. Nos. 1519714 and 2338478; application pending in the U.S.	2023
LNP Manufacturing Process	U.S. Pat. No. 9,005,654; application pending in Europe	2026
Lipid Compositions	U.S. Pat. No. 7,745,651; European Pat. No. 1781593; application pending in the U.S.	2025
Lipid Compositions	U.S. Pat. Nos. 7,803,397 and 8,936,942; European Pat. No. 1664316	2024
Modified siRNA Compositions	U.S. Pat. Nos. 8,101,741, 8,188,263 and 9,074,208; applications pending in other jurisdictions	2026
Modified siRNA Compositions	U.S. Pat. No. 7,915,399	2027
siRNA and LNP Compositions (Ebola Virus)	U.S. Pat. No. 7,838,658	2026
siRNA and LNP Compositions and Methods of Treatment (Ebola Virus)	U.S. Pat. No. 8,716,464	2030
siRNA and LNP Compositions (PLK1)	U.S. Pat. No. 9,006,191; European Pat. No. 2238251	2028
Immunostimulatory Compositions, Methods of Use and Production	U.S. Pat. No. 8,691,209; European Pat. No. 1450856	2022
siRNA and LNP Compositions (HBV)	Patent applications pending in U.S. and other jurisdictions	2035
HBV Capsid Assembly Inhibitor Compositions and Methods of Treatment	Patent applications pending in U.S. and other jurisdictions	2032

(1) Patent information current as of February 15, 2016.

* Once issued, the term of a US patent first filed after mid-1995 generally extends until the 20th anniversary of the filing date of the first non-provisional application to which such patent claims priority. It is important to note, however, that the United States Patent & Trademark Office, or USPTO, sometimes requires the filing of a Terminal Disclaimer during prosecution, which may shorten the term of the patent. On the other hand, certain patent term adjustments may be available based on USPTO delays during prosecution. Similarly, in the pharmaceutical area, certain patent term extensions may be available based on the history of the drug in clinical trials. We cannot predict whether or not any such adjustments or extensions will be available or the length of any such adjustments or extensions.

Scientific Advisers

We seek advice from our scientific advisory board, which consists of a number of leading scientists and physicians, on scientific and medical matters. The current members of our scientific advisory board are:

Name	Position(s)/Institutional Affiliation(S)
Adrian Di Bisceglie, MD	Professor of Internal Medicine and Chairman of the Department of Medicine at St Louis University , St Louis University School of Medicine, Chief of Hepatology
Charlie Rice, Ph.D.	Maurice and Corinne Greenberg Professor in Virology, Rockefeller University
Scott Biller, Ph.D.	Chief Scientific Officer at Agios Pharmaceuticals
Ulrike Protzer, Ph.D.	Director, Institute of Virology, Technische Universität München / Helmholtz Zentrum München - German Center for Environmental Health
Fabien Zoulim, MD, Ph.D.	Professor of Medicine, Lyon University, Head of Hepatology Department, Hospices Civils de Lyon

Employees

At December 31, 2015, Arbutus had 134 employees, 105 of whom were engaged in research and development. None of our employees are represented by a labor union or covered by a collective bargaining agreement, nor have we experienced any work stoppages. We believe that relations with our employees are good.

Corporate information

Arbutus Biopharma Corporation (“Arbutus”, “we”, “us”, and “our”) is a publicly traded industry-leading therapeutic solutions company focused on discovering, developing and commercializing a cure for patients suffering from chronic hepatitis HBV infection. Effective July 31, 2015, our corporate name changed from Tekmira Pharmaceuticals Corporation to Arbutus Biopharma Corporation. Also effective July 31, 2015, the corporate name of our wholly owned subsidiary, OnCore Biopharma, Inc. changed to Arbutus Biopharma, Inc. (“Arbutus Inc.”). We have two wholly owned subsidiaries:Arbutus Inc., and Protiva Biotherapeutics Inc. (“Protiva”). Unless stated otherwise or the context otherwise requires, references herein to “Arbutus”, “we”, “us” and “our” refer to Arbutus Biopharma Corporation, and, unless the context requires otherwise, one or more subsidiaries through which we conduct business.

Arbutus was incorporated pursuant to the British Columbia Business Corporations Act, or BCBCA, on October 6, 2005, and commenced active business on April 30, 2007, when Arbutus and its parent company, Inex Pharmaceuticals Corporation, or Inex, Inex, were reorganized under a statutory plan of arrangement (the Reorganization) completed under the provisions of the BCBCA. The Reorganization saw Inex’s entire business transferred to and continued by Arbutus.

On March 4, 2015, we completed a business combination pursuant to which OnCore Biopharma, Inc., or OnCore, became our wholly-owned subsidiary. This combined company intends to focus on developing a curative regimen for HBV patients by combining multiple therapeutic approaches.

Arbutus’ head office and principal place of business is located at 100-8900 Glenlyon Parkway, Burnaby, British Columbia, Canada, V5J 5J8 (telephone: (604) 419-3200). The Company’s registered and records office is located at 700 West Georgia St, 25th Floor, Vancouver, British Columbia, Canada, V7Y 1B3. Arbutus also has a US office located at 3805 Old Easton Road, Doylestown, PA 18902.

Investor information

We are a reporting issuer in Canada under the securities laws of each of the Provinces of Canada. On March 3, 2015, Arbutus’ common shares were voluntarily delisted from the Toronto Stock Exchange.

Arbutus' common shares trade on the NASDAQ Global Market under the symbol "ABUS". We maintain a website at http://www.arbutusbio.com. The information on our website is not incorporated by reference into this annual report on Form 10-K and should not be considered to be a part of this annual report on Form 10-K. Our website address is included in this annual report on Form 10-K as an inactive technical reference only. Our reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, including our annual reports on Form 10-K (annual reports on Form 20-F up to year-ended December 31, 2012), our quarterly reports on Form 10-Q (quarterly reports on Form 6-K up to quarter-ended September 30, 2013) and our current reports on Form 8-K, and amendments to those reports, are accessible through our website, free of charge, as soon as reasonably practicable after these reports are filed electronically with, or otherwise furnished to, the SEC. We also make available on our website the charters of our audit committee, executive compensation and human resources committee and corporate governance and nominating committee, whistleblower policy, insider trading policy, and majority voting policy, as well as our code of business conduct and ethics for directors, officers and employees. In addition, we intend to disclose on our web site any amendments to, or waivers from, our code of business conduct and ethics that are required to be disclosed pursuant to the SEC rules.

You may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements, and other information regarding Arbutus and other issuers that file electronically with the SEC. The SEC's website address is http://www.sec.gov.

Executive Officers of the Registrant

Set forth below is information about our executive officers, as of March 8, 2016.

Name	Age	Position(s)
Mark Murray	67	President and Chief Executive Officer, and Director
Bruce Cousins	55	Executive Vice President and Chief Financial Officer
Mark Kowalski	61	Chief Medical Officer
Peter Lutwyche	50	Chief Technology Officer
Patrick Higgins	58	Chief Business Officer
Michael Sofia	57	Chief Scientific Officer
William Symonds	48	Chief Development Officer and Director
Elizabeth Howard	62	Executive Vice President and General Counsel
Michael Abrams	59	Managing Director

Dr. Mark Murray serves as our President, Chief Executive Officer and a Director since May 2008 when Arbutus and Protiva Biotherapeutics, Inc. merged. Previously, he was the President and CEO and founder of Protiva since its inception in the summer of 2000. Dr. Murray has over 20 years of experience in both the R&D and business development and management facets of the biotechnology industry. Dr. Murray has held senior management positions at ZymoGenetics and Xcyte Therapies prior to joining Protiva. Since entering the biotechnology industry Dr. Murray has successfully completed numerous and varied partnering deals, directed successful research and product development programs, been responsible for strategic planning programs, raised millions of dollars in capital and executed extensive business development initiatives in the U.S., Europe and Asia. During his R&D career, Dr. Murray worked extensively on three programs that resulted in FDA approved drugs, including the first growth factor protein approved for human use, a program he led for several years following his discovery. Dr. Murray obtained his Ph.D. in Biochemistry from the University of Oregon Health Sciences University and was a Damon Runyon-Walter Winchell post-doctoral research fellow for three years at the Massachusetts Institute of Technology.

Mr. Bruce Cousins serves as our Executive Vice President and Chief Financial Officer. Mr. Cousins brings to Arbutus extensive global financial and pharmaceutical industry experience both working for multi-million dollar companies and leading start-ups through to successful completion of their strategic growth plans. In 2004, Mr. Cousins joined Aspreva Pharmaceuticals and led its highly successful IPO. In 2008, he played a key leadership role in the eventual sale of Aspreva in a $915 million all-cash transaction. Prior to joining Aspreva, Mr. Cousins spent 14 years with Johnson & Johnson (J&J) working in operations and finance, both domestically and internationally. Prior to the pharmaceutical industry, Mr. Cousins was a chartered accountant with Deloitte & Touche. More recently, Mr. Cousins has spent the past few years in the renewable energy sector, and from 2011 to 2013 he was Chief Executive Officer of Carmanah Technologies Corporation, a TSX-listed company. Prior to Carmanah, he held Chief Financial Officer positions at Xantrex Technology Inc. and Ballard Power Systems. Mr. Cousins completed a Bachelor of Commerce degree from McMaster University in 1987 and received a Chartered Accountant designation in 1989.

Dr. Mark Kowalski serves as our Chief Medical Officer. Dr. Kowalski has extensive experience in Phase I through Phase IV drug development and clinical trials in a wide variety of therapeutic areas including oncology, urology, infectious diseases, analgesia, allergy, rheumatology and cardiovascular diseases. His experience also includes basic scientific research on the molecular biology of HIV as well as clinical practice in internal medicine. Prior to joining Arbutus, Dr. Kowalski worked in the oncology and inflammation therapeutic area at Gilead Sciences, Inc. following Gilead's $510-million acquisition of YM BioSciences Inc. Previously, Dr. Kowalski had been CMO and Vice President of Regulatory Affairs at YM BioSciences Inc. Dr. Kowalski's experience also encompasses being the CMO and Vice President of Medical/Regulatory Affairs at Viventia Biotechnologies Inc. Prior to Viventia, he was the Senior Director of Medical Affairs at AAIPharma Inc. Dr. Kowalski holds a B.A. from Rutgers University and an M.D. and Ph.D. from the University of Kansas School of Medicine. He completed his postgraduate training in internal medicine and infectious diseases at Duke University and Harvard Medical School.

Dr. Peter Lutwyche serves as our Chief Technology Officer. Dr. Lutwyche's responsibilities at Arbutus include manufacturing, process development and quality control for all Arbutus product candidates, as well as supporting Arbutus' collaborative partners as they advance products that utilize Arbutus's technology. Previously Dr. Lutwyche was Director, Pharmaceutical Development at QLT Inc. During his tenure at QLT, Dr. Lutwyche contributed to the development and commercialization of Visudyne as well as leading manufacturing and chemistry efforts for numerous pre-clinical and clinical stage products. Prior to QLT, he was a research scientist at Inex Pharmaceuticals Corporation working with lipid-based formulations of nucleic acids and antibiotics. Dr. Lutwyche holds a Ph.D. in Chemistry from the University of British Columbia.

Mr. Patrick Higgins serves as our Chief Business Officer. Mr. Higgins was a co-founder of our subsidiary Arbutus Biopharma, Inc. (formerly OnCore Biopharma, Inc.) and served as a member of its board of directors since its inception in May 2012 and as its Chief Executive Officer since July 2014. Mr. Higgins previously served as Executive Vice-President, Marketing and Sales of Pharmasset, Inc., a specialty pharmaceutical company, from 2007 to January 2012 and was a consultant to Pharmasset from 2006 to 2007. From 1995 to 2006, Mr. Higgins was the Vice-President, Sales and Marketing, Virology at Hoffmann-LaRoche, a pharmaceutical company. Mr. Higgins received his B.A. degree from Villanova University and his M.B.A. degree from Seton Hall University.

Dr. Michael Sofia serves as our Chief Scientific Officer. Dr. Sofia was one of Arbutus Biopharma, Inc. co-founders and served as its Chief Scientific Officer and Head of Research and Development since July 2014. He previously served as President and a member of its board of directors from May 2012 to August 2014. Since April 2012, Dr. Sofia has been a professor at the Baruch S. Blumberg Institute and since March 2013, Dr. Sofia has been an adjunct professor at the Drexel University School of Medicine. Previously, Dr. Sofia was the Senior Vice-President, Chemistry, Site Head and then Senior Adviser at Gilead Sciences, Inc. from January 2012 to December 2012. Prior to that, Dr. Sofia was the Senior Vice-President, Chemistry at Pharmasset, Inc. from August 2005 to January 2012. From 1999 to 2005, Dr. Sofia served as a Group Director, New Leads Chemistry at Bristol-Myers Squibb. From 1993 to 1999, Dr. Sofia established and directed the research programs at Transcell Technologies, first as Director of Chemistry and then as Vice-President of Research. Dr. Sofia received his B.A. degree from Cornell University, his Ph.D. degree from the University of Illinois at Urbana-Champaign and was an NIH postdoctoral fellow at Columbia University. Dr. Sofia has won the Economist's 2015 Innovation Award in the Bioscience category, for developing a rapid cure for hepatitis C virus infection (HCV).

Dr. William Symonds serves as our Chief Development Officer. Dr. Symonds served as a director of Arbutus Biopharma, Inc. since August 2014 and as a Senior Adviser since November 2014. Dr. Symonds is currently Senior Vice President, Clinical Research at Roivant Sciences, Inc., a position he has held since May 2014. Prior to that, Dr. Symonds served as Vice-President, Liver Disease Therapeutic Area at Gilead Sciences, Inc. from February 2012 until April 2014, and was the Senior Vice-President, Clinical Pharmacology and Translational Medicine at Pharmasset, Inc. from 2007 to January 2012. From 1993 to 2007, Dr. Symonds held various positions of increasing responsibility at GlaxoSmithKline, most recently as Director, Antiviral Clinical Pharmacology and Discovery Medicine. Dr. Symonds received his Doctor of Pharmacy degree from Campbell University and completed a fellowship in clinical pharmacokinetics at the Clinical Pharmacokinetics Laboratory in Buffalo, New York.

Dr. Elizabeth Howard serves as our Executive Vice President and General Counsel. Dr. Howard has been practicing law for more than 20 years. Prior to joining Arbutus in March 2016, she was an intellectual property partner at Orrick Herrington & Sutcliffe LLP, or Orrick, where she co-chaired Orrick's life sciences practice focusing on patent infringement litigation. Her practice also included trade secrets disputes and handling anti-counterfeiting matters in the pharmaceutical industry. In addition to litigating in numerous federal district courts and California state courts, Dr. Howard has appeared before the U.S. Patent and Trademark Office in interference proceedings, arbitrated before numerous tribunals, and litigated before the U.S. International Trade Commission (ITC). Dr. Howard also served as a deputy district attorney in the county of Santa Clara. Dr. Howard has been listed as a "leading lawyer" in "PLC Which Lawyer" for her litigation successes in life sciences, and named to the Daily Journal's list of "Top 75 IP Litigators in California" in 2013. Before law school, Dr. Howard was an NSF Plant Molecular Biology Postdoctoral Fellow at the CSIRO Division of Plant Industry in Canberra, Australia, and a Research Geneticist at the University of California, Berkeley. Dr. Howard obtained her doctorate with Dr. Elizabeth Blackburn (2009 Nobel Laureate, Physiology or Medicine). Dr. Howard holds a B.A. with honors from the University of California, Santa Barbara, a Ph.D. in Molecular Biology from the University of California, Berkeley, a J.D. from the University of California, Hastings College of the Law, and is a member of the United States Patent Bar.

Dr. Michael Abrams serves as our Managing Director of the business unit dedicated to our non-HBV assets. Prior to joining Arbutus, Dr. Abrams was Chief Innovation Officer and VP, Research and Development at CDRD Ventures Inc. Previously, Dr. Abrams was President and CEO of Inimex. He was the founding CEO of AnorMED, Inc. and led that company as President and CEO for ten years. AnorMED discovered and developed Mozobil, a drug for improving stem cell mobilization for patients undergoing stem cell transplantation. Mozobil was approved by the FDA in 2008 and AnorMED was acquired by Genzyme Corp. in 2006 for $580M. Prior to AnorMED, Dr. Abrams was Manager Biomedical Research for Johnson Matthey, plc where he led the spin-off of the biomedical research group to form AnorMED. From 2009 to 2013, Dr. Abrams served as Board Chairman of Indel Therapeutics. Dr. Abrams has a Ph.D. in Chemistry from the Massachusetts Institute of Technology and a BA in Chemistry from Bowdoin College. In 2009 he was a corecipient of the Georg Charles de Hevesy Nuclear Pioneer Award from the Society of Nuclear Medicine for his work in the invention of the radiopharmaceutical, Cardiolite.

Item 1A. Risk Factors

Our business is subject to numerous risks. We caution you that the following important factors, among others, could cause our actual results to differ materially from those expressed in forward-looking statements made by us or on our behalf in filings with the SEC and Canadian securities regulators, press releases, communications with investors and oral statements. All statements other than statements relating to historical matters should be considered forward-looking statements. When used in this report, the words "believe," "expect," "plan," "anticipate," "estimate," "predict," "may" "could" "should," "intend," "will," "target," "goal" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these words. Any or all of our forward-looking statements in this annual report on Form 10-K and in any other public statements we make may turn out to be wrong. They can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties. Many factors mentioned in the discussion below will be important in determining future results. Consequently, no forward-looking statement can be guaranteed. Actual future results may vary materially from those anticipated in forward-looking statements. We explicitly disclaim any obligation to update any forward-looking statements to reflect events or circumstances that arise after the date hereof, unless required by law. You are advised, however, to consult any further disclosure we make in our reports filed with the SEC and Canadian securities regulators.

Risks Related to Our Business

We are in the early stages of our development and because we have a short development history with ribonucleic acid interference (RNAi) and assets relating to HBV, there is a limited amount of information about us upon which you can evaluate our RNAi business and prospects, and our HBV business and prospects.

We have not begun to market or generate revenues from the commercialization of any RNAi products or our HBV products. We have only a limited history upon which one can evaluate our business and prospects as our therapeutic products are still at an early stage of development and thus we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biopharmaceutical area. For example, to execute our business plan, we will need to successfully:

- execute research and development activities using RNAi technology; and technologies involved in the development of HBV therapeutics;
- build, maintain and protect a strong intellectual property portfolio;
- gain acceptance for the development and commercialization of any product we develop;
- develop and maintain successful strategic relationships; and
- manage our spending and cash requirements as our expenses are expected to increase due to research and preclinical work, clinical trials, regulatory approvals, and commercialization and maintaining our intellectual property portfolio

If we are unsuccessful in accomplishing these objectives, we may not be able to develop products, raise capital, expand our business or continue our operations. The approach we are taking to discover and develop novel drug products is unproven and may never lead to marketable drug products.

We intend to concentrate our internal research and development efforts in the future primarily on the discovery and development of therapeutics targeting chronic hepatitis B to be able to ultimately develop a cure for the disease. Our future success depends in part on the successful development of these therapeutics. Our approach to the treatment of HBV is unproven, and we do not know whether we will be able to develop any drugs of commercial value.

There is no known cure for HBV. Any compounds that we develop may not effectively address HBV persistence. Even if we are able to develop compounds that address one or more of these key factors, targeting these key factors has not been proven to cure HBV. We may be unable to acquire additional drug candidates on terms acceptable to us, or at all. Even if we are able to acquire or develop drug candidates that address one of these mechanisms of action in preclinical studies, we may not succeed in demonstrating safety and efficacy of the drug candidate in human clinical trials. If we are unable to identify suitable compounds for preclinical and clinical development, we will not succeed in realizing our goal of a cure for HBV.

We also intend to continue research and development efforts on RNAi technology and products based on RNAi technology. While RNAi technology is based on a naturally occurring process that takes place inside cells, which can suppress the production of specific proteins, and has the potential to generate therapeutic drugs that take advantage of that process, neither we nor any other company has received regulatory approval to market a therapeutic product based on RNAi technology. The scientific discoveries that form the basis for our efforts to discover and develop new products are relatively new. While there are a number of RNAi therapeutics in development, very few product candidates based on these discoveries have ever been tested in humans and there can be no assurance that any RNAi therapeutic product will be approved for commercial use.

If we are not successful in developing a product with our research and development efforts, we may be required to change the scope and direction of our product development activities. In that case, we may not be able to identify and implement successfully an alternative product development strategy.

We expect to depend in part on our existing collaborators for a significant portion of our revenues and to develop, conduct clinical trials with, obtain regulatory approvals for, and manufacture, market and sell some of our product candidates. If these collaborations are unsuccessful, or anticipated milestone payments are not received, our business could be adversely affected.

We expect that we will depend in part on Alnylam, Spectrum, Dicerna, and Monsanto to provide revenue to fund our operations, especially in the near term. Furthermore, our strategy is to enter into various additional arrangements with corporate and academic collaborators, licensors, licensees and others for the research, development, clinical testing, manufacturing, marketing and commercialization of our products. We may be unable to continue to establish such collaborations, and any collaborative arrangements we do establish may be unsuccessful, or we may not receive milestone payments as anticipated.

Should any collaborative partner fail to develop or ultimately successfully commercialize any of the products to which it has obtained rights, our business may be adversely affected. In addition, once initiated, there can be no assurance that any of these collaborations will be continued or result in successfully commercialized products. Failure of a collaborative partner to continue funding any particular program could delay or halt the development or commercialization of any products arising out of such program. In addition, there can be no assurance that the collaborative partners will not pursue alternative technologies or develop alternative products either on their own or in collaboration with others, including our competitors, as a means for developing treatments for the diseases targeted by our programs.

We expect to spend substantial amounts to acquire additional drug candidates, to conduct further research and development and preclinical testing and clinical trials of our drug candidates, to seek regulatory approvals for our drug candidates and to launch and commercialize any drug candidates for which we receive regulatory approval. These expenditures will include costs associated with our and our subsidiary's licensing agreements with Blumberg, or Drexel, and Cytos. Under the terms of these agreements, we are obligated to make significant cash payments upon the achievement of specified development, regulatory and sales performance milestones, as well as royalty payments in connection with the sale of licensed products, to our licensors.

We rely on third parties to conduct our clinical trials, and if they fail to fulfill their obligations, our development plans may be adversely affected.

We rely on independent clinical investigators, contract research organizations and other third-party service providers to assist us in managing, monitoring and otherwise carrying out our clinical trials. We have contracted with, and we plan to continue to contract with, certain third parties to provide certain services, including site selection, enrollment, monitoring and data management services. Although we depend heavily on these parties, we do not control them and therefore, we cannot be assured that these third parties will adequately perform all of their contractual obligations to us. If our third-party service providers cannot adequately fulfill their obligations to us on a timely and satisfactory basis or if the quality or accuracy of our clinical trial data is compromised due to failure to adhere to our protocols or regulatory requirements, or if such third parties otherwise fail to meet deadlines, our development plans may be delayed or terminated.

We have no sales, marketing or distribution experience and would have to invest significant financial and management resources to establish these capabilities.

We have no sales, marketing or distribution experience. We currently expect to rely heavily on third parties to launch and market certain of our products, if approved. However, if we elect to develop internal sales, distribution and marketing capabilities, we will need to invest significant financial and management resources. For products where we decide to perform sales, marketing and distribution functions ourselves, we could face a number of additional risks, including:

- we may not be able to attract and build a significant marketing or sales force;
- the cost of establishing a marketing or sales force may not be justifiable in light of the revenues generated by any particular product; and
- our direct sales and marketing efforts may not be successful.

If we are unable to develop our own sales, marketing and distribution capabilities, we will not be able to successfully commercialize our products, if approved, without reliance on third parties.

We will rely on third-party manufacturers to manufacture our products (if approved) in commercial quantities, which could delay, prevent or increase the costs associated with the future commercialization of our products.

Our product candidates have not yet been manufactured for commercial use. If any of our product candidates become approved for commercial sale, in order to supply our or our collaborators' commercial requirements for such an approved product, we will need to establish third-party manufacturing capacity. Any third-party manufacturing partner may be required to fund capital improvements to support the scale-up of manufacturing and related activities. The third-party manufacturer may not be able to establish scaled manufacturing capacity for an approved product in a timely or economic manner, if at all. If a manufacturer is unable to provide commercial quantities of such an approved product, we will have to successfully transfer manufacturing technology to a new manufacturer. Engaging a new manufacturer for such an approved product could require us to conduct comparative studies or utilize other means to determine bioequivalence of the new and prior manufacturers' products, which could delay or prevent our ability to commercialize such an approved product. If any of these manufacturers is unable or unwilling to increase its manufacturing capacity or if we are unable to establish alternative arrangements on a timely basis or on acceptable terms, the development and commercialization of such an approved product may be delayed or there may be a shortage in supply. Any inability to manufacture our products in sufficient quantities when needed would seriously harm our business.

Manufacturers of our approved products, if any, must comply with current good manufacturing practices (cGMP) requirements enforced by the FDA and Health Canada through facilities inspection programs. These requirements include quality control, quality assurance, and the maintenance of records and documentation. Manufacturers of our approved products, if any, may be unable to comply with these cGMP requirements and with other FDA, Health Canada, state, and foreign regulatory requirements. We have little control over our manufacturers' compliance with these regulations and standards. A failure to comply with these requirements may result in fines and civil penalties, suspension of production, suspension or delay in product approval, product seizure or recall, or withdrawal of product approval. If the safety of any quantities supplied is compromised due to our manufacturer's failure to adhere to applicable laws or for other reasons, we may not be able to obtain regulatory approval for or successfully commercialize our products, which would seriously harm our business.

Risks Related to Our Financial Results and Need for Financing

We will require substantial additional capital to fund our operations. If additional capital is not available, we may need to delay, limit or eliminate our research, development and commercialization processes and may need to undertake a restructuring.

Within the next several years, substantial additional funds will be required to continue with the active development of our pipeline products and technologies. In particular, our funding needs may vary depending on a number of factors including:

- revenues earned from our partners, including Alnylam, Acuitas, Spectrum, Monsanto, and Dicerna;
- the extent to which we continue the development of our product candidates or form collaborative relationships to advance our products;
- our decisions to in-license or acquire additional products or technology for development,
- our ability to attract and retain corporate partners, and their effectiveness in carrying out the development and ultimate commercialization of our product candidates;
- whether batches of drugs that we manufacture fail to meet specifications resulting in delays and investigational and remanufacturing costs;
- the decisions, and the timing of decisions, made by health regulatory agencies regarding our technology and products;
- competing technological and market developments; and
- prosecuting and enforcing our patent claims and other intellectual property rights.

We will seek to obtain funding to maintain and advance our business from a variety of sources including public or private equity or debt financing, collaborative arrangements with pharmaceutical and biotechnology companies and government grants and contracts. There can be no assurance that funding will be available at all or on acceptable terms to permit further development of our products especially in light of the current difficult climate for investment in biotechnology companies.

If adequate funding is not available, we may be required to delay, reduce or eliminate one or more of our research or development programs or reduce expenses associated with non-core activities. We may need to obtain funds through arrangements with collaborators or others that may require us to relinquish most or all of our rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise seek if we were better funded. Insufficient financing may also mean failing to prosecute our patents or relinquishing rights to some of our technologies that we would otherwise develop or commercialize.

We have incurred losses in nearly every year since our inception and we anticipate that we will not achieve sustained profits for the foreseeable future. To date, we have had no product revenues.

With the exception of the year ended December 31, 2006 and December 31, 2012, we have incurred losses each fiscal year since inception until December 31, 2015 and have not received any revenues other than from research and development collaborations, license fees and milestone payments. From inception to December 31, 2015, we have an accumulated net deficit of $ 267.0 million. As we continue our research and development and clinical trials and seek regulatory approval for the sale of our product candidates, we do not expect to attain sustained profitability for the foreseeable future. We do not expect to achieve sustained profits until such time as strategic alliance payments, product sales and royalty payments, if any, generate sufficient revenues to fund our continuing operations. We cannot predict if we will ever achieve profitability and, if we do, we may not be able to remain consistently profitable or increase our profitability.

We are subject to risks associated with currency fluctuations, and changes in foreign currency exchange rates could impact our results of operations.

Prior to January 1, 2016, our functional currency was the Canadian dollar. On January 1, 2016, our functional currency changed from the Canadian dollar to the U.S. dollar based on our analysis of the changes in the primary economic environment in which we operate. As a result, changes in the exchange rate between the Canadian dollar and the U.S. dollar could materially impact our reported results of operations and distort period to period comparisons. In particular, to the extent that foreign currency-denominated (i.e., non-U.S. dollar) monetary assets do not equal the amount of our foreign currency denominated monetary liabilities, foreign currency gains or losses could arise and materially impact our financial statements. As a result of such foreign currency fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. In addition, to the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our common shares could be adversely affected.

From time to time, we may engage in exchange rate hedging activities in an effort to mitigate the impact of exchange rate fluctuations. Any hedging technique we implement may fail to be effective. If our hedging activities are not effective, changes in currency exchange rates may have a more significant impact on the trading price of our common shares.

Risks Related to Managing Our Operations

If we are unable to attract and retain qualified key management, scientific staff, consultants and advisors, our ability to implement our business plan may be adversely affected.

We depend upon our senior executive officers as well as key scientific, management and other personnel. The competition for qualified personnel in the biotechnology field is intense. We rely heavily on our ability to attract and retain qualified managerial, scientific and technical staff. The loss of the service of any of the members of our senior management, including Dr. Mark Murray, our President and Chief Executive Officer, may adversely affect our ability to develop our technology, add to our pipeline, advance our product candidates and manage our operations.

We may have difficulty managing our growth and expanding our operations successfully as we seek to evolve from a company primarily involved in discovery and preclinical testing into one that develops products through clinical development and commercialization.

As product candidates we develop enter and advance through clinical trials, we will need to expand our development, regulatory, manufacturing, clinical and medical capabilities or contract with other organizations to provide these capabilities for us. As our operations expand, we expect that we will need to manage additional relationships with various collaborators, suppliers and other organizations. Our ability to manage our operations and growth will require us to continue to improve our operational, financial and management controls, reporting systems and procedures. We may not be able to implement improvements to our management information and control systems in an efficient or timely manner and may discover deficiencies in existing systems or controls.

Additionally, our success will also depend on ability to continue to realize the benefits of our merger with OnCore, and Arbutus can offer no assurance that we will continue to realize benefits anticipated to result from the merger.

We could face liability from our controlled use of hazardous and radioactive materials in our research and development processes.

We use certain radioactive materials, biological materials and chemicals, including organic solvents, acids and gases stored under pressure, in our research and development activities. Our use of radioactive materials is regulated by the Canadian Nuclear Safety Commission for the possession, transfer, import, export, use, storage, handling and disposal of radioactive materials. Our use of biological materials and chemicals, including the use, manufacture, storage, handling and disposal of such materials and certain waste products is regulated by a number of federal, provincial and local laws and regulations. Although we believe that our safety procedures for handling such materials comply with the standards prescribed by such laws and regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, we could be held liable for any damages that result and any such liability could exceed our resources. We are not specifically insured with respect to this liability.

Our business and operations could suffer in the event of information technology system failures.

Despite the implementation of security measures, our internal computer systems and those of our contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war, and telecommunication and electrical failures. Such events could cause interruption of our operations. For example, the loss of pre-clinical trial data or data from completed or ongoing clinical trials for our product candidates could result in delays in our regulatory filings and development efforts and significantly increase our costs. To the extent that any disruption or security breach will result in a loss of or damage to our data, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the development of our product candidates could be delayed.

If, in the future, our internal control over financial reporting is not effective, it could have a material adverse effect on our stock price and our ability to raise capital.

We have completed an independent audit of our internal control over financial reporting for our fiscal year ending December 31, 2015 and no material weaknesses have been identified. If our internal control over financial reporting is determined in the future to not be effective, whether by our management or by our independent auditors, there could be an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements, which could materially adversely affect our stock price and our ability to raise capital necessary to operate our business. In addition, we may be required to incur costs in improving our internal control system and hiring additional personnel.

We rely on and will incur additional expense in connection with our research collaboration with Blumberg.

In October 2014, Arbutus Inc. entered into an agreement with Blumberg under which Arbutus Inc.will provide annual funding for a three year period in the amount of $1.0 million per year and which is renewable for an additional three year period at our option, for Blumberg to conduct research projects in HBV and liver cancer pursuant to a research plan to be agreed upon by the parties. In exchange, Arbutus Inc.has the right to obtain an exclusive, royalty bearing, worldwide license to intellectual property generated by Blumberg in the course of the funded research and we believe that Blumberg's HBV research platform will continue to be a source of potentially novel hepatitis B targets, drug candidates, assays and other HBV specific technologies. As a result, we are dependent, in part, upon the success of Blumberg in performing its responsibilities under this research collaboration. Blumberg may not cooperate with us or perform its obligations under the agreement. We cannot control the amount and timing of Blumberg's resources that will be devoted to research and development activities related to our research collaboration. Further, development costs associated with our research projects may be difficult to anticipate and exceed our expectations. If funding is unable to continue to financially support the collaboration, if we do not obtain exclusive licenses from Blumberg to the resulting intellectual property, or if we fails to comply with our obligations under those license agreements, its development efforts may be materially harmed.

Risks Related to Development, Clinical Testing and Regulatory Approval of Our Product Candidates

The manufacture and sale of human therapeutic products are governed by a variety of statutes and regulations. There can be no assurance that our product candidates will obtain regulatory approval.

To obtain marketing approval, U.S. and Canadian laws require:

- controlled research and human clinical testing;
- establishment of the safety and efficacy of the product for each use sought;
- government review and approval of a submission containing manufacturing, pre-clinical and clinical data;
- adherence to Good Manufacturing Practice Regulations during production and storage; and
- control of marketing activities, including advertising and labelling

The product candidates we currently have under development will require significant development, preclinical and clinical testing and investment of significant funds before their commercialization. Some of our product candidates, if approved, will require the completion of post-market studies. There can be no assurance that such products will be developed. The process of completing clinical testing and obtaining required approvals is likely to take a number of years and require the use of substantial resources. If we fail to obtain regulatory approvals, our operations will be adversely affected. Further, there can be no assurance that product candidates employing a new technology will be shown to be safe and effective in clinical trials or receive applicable regulatory approvals.

Other markets have regulations and restrictions similar to those in the U.S. and Canada. Investors should be aware of the risks, problems, delays, expenses and difficulties which we may encounter in view of the extensive regulatory environment which affects our business in any jurisdiction where we develop product candidates.

If testing of a particular product candidate does not yield successful results, then we will be unable to commercialize that product candidate.

We must demonstrate our product candidates' safety and efficacy in humans through extensive clinical testing. Our research and development programs are at an early stage of development. We may experience numerous unforeseen events during, or as a result of, the testing process that could delay or prevent commercialization of any products, including the following:

- decreased demand for our product candidates;
- impairment of our business reputation;
- withdrawal of clinical trial participants;
- costs of related litigation;
- substantial monetary awards to patients or other claimants;
- loss of revenues; and
- inability to commercialize our product candidates.

Although we currently have product liability insurance coverage for our clinical trials for expenses or losses, our insurance coverage is limited to $10 million per occurrence, and $10 million in the aggregate, and may not reimburse us or may not be sufficient to reimburse us for any or all expenses or losses we may suffer. Moreover, insurance coverage is becoming increasingly expensive and, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. We intend to expand our insurance coverage to include the sale of commercial products if we obtain marketing approval for our product candidates in development, but we may be unable to obtain commercially reasonable product liability insurance for any products approved for marketing. On occasion, large judgments have been awarded in class action lawsuits based on products that had unanticipated side effects. A successful product liability claim or series of claims brought against us could cause our stock price to fall and, if judgments exceed our insurance coverage, could decrease our cash and adversely affect our business.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our drug candidates and affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of our drug candidates, restrict or regulate post approval activities and affect our ability to profitably sell any products for which we obtain marketing approval.

For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care Education Reconciliation Act, or collectively the Affordable Care Act, was enacted to broaden access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. Although it is too early to determine the effect of the Affordable Care Act, the new law appears likely to continue the downward pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

Moreover, the recently enacted Drug Supply Chain Security Act imposes new obligations on manufacturers of pharmaceutical products related to product and tracking and tracing. Legislative and regulatory proposals have been made to expand post approval requirements and restrict sales and promotional activities for pharmaceutical products. We are not sure whether additional legislative changes will be enacted, or whether the current regulations, guidance or interpretations will be changed, or what the impact of such changes on our business, if any, may be.

Coverage and adequate reimbursement may not be available for our drug candidates, which could make it difficult for us to sell our products profitably.

Market acceptance and sales of any drug candidates that we develop, will depend in part on the extent to which reimbursement for these products and related treatments will be available from third party payors, including government health administration authorities and private health insurers. Third party payors decide which drugs they will pay for and establish reimbursement levels. Third party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies. However, decisions regarding the extent of coverage and amount of reimbursement to be provided for each of our drug candidates will be made on a plan by plan basis. One payors determination to provide coverage for a product does not assure that other payors will also provide coverage, and adequate reimbursement, for the product.

Additionally, a third party payors decision to provide coverage for a drug does not imply that an adequate reimbursement rate will be approved. Each plan determines whether or not it will provide coverage for a drug, what amount it will pay the manufacturer for the drug, and on what tier of its formulary the drug will be placed. The position of a drug on a formulary generally determines the copayment that a patient will need to make to obtain the drug and can strongly influence the adoption of a drug by patients and physicians. Patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use our products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of our products.

A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Third party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. We cannot be sure that coverage and reimbursement will be available for any product that we commercialize and, if reimbursement is available, what the level of reimbursement will be. Inadequate coverage and reimbursement may impact the demand for, or the price of, any product for which we obtain marketing approval. If coverage and adequate reimbursement is not available, or is available only to limited levels, we may not be able to successfully commercialize any drug candidates that we develop.

Additionally, there have been a number of legislative and regulatory proposals to change the healthcare system in the United States and in some foreign jurisdictions that could affect our ability to sell any future drugs profitably. These legislative and regulatory changes may negatively impact the reimbursement for any future drugs, following approval.

Risks Related to Patents, Licenses and Trade Secrets

Other companies or organizations may assert patent rights that prevent us from developing or commercializing our products.

RNA interference is a relatively new scientific field that has generated many different patent applications from organizations and individuals seeking to obtain patents in the field. These applications claim many different methods, compositions and processes relating to the discovery, development and commercialization of RNAi therapeutic products. Because the field is so new, very few of these patent applications have been fully processed by government patent offices around the world, and there is a great deal of uncertainty about which patents will be issued, when, to whom, and with what claims. It is likely that there could be litigation and other proceedings, such as interference and opposition proceedings in various patent offices, relating to patent rights in RNAi.

In addition, there are many issued and pending patents that claim aspects of RNAi trigger chemistry technology that we may need to apply to our product candidates. There are also many issued patents that claim genes or portions of genes that may be relevant for RNAi trigger drug products we wish to develop. Thus, it is possible that one or more organizations will hold patent rights to which we will need a license. If those organizations refuse to grant us a license to such patent rights on reasonable terms, we will not be able to market products or perform research and development or other activities covered by these patents.

Our patents and patent applications may be challenged and may be found to be invalid, which could adversely affect our business.

Certain Canadian, U.S. and international patents and patent applications we own involve complex legal and factual questions for which important legal principles are largely unresolved. For example, no consistent policy has emerged for the breadth of biotechnology patent claims that are granted by the U.S. Patent and Trademark Office or enforced by the U.S. federal courts. In addition, the coverage claimed in a patent application can be significantly reduced before a patent is issued. Also, we face the following intellectual property risks:

- some or all patent applications may not result in the issuance of a patent;
- patents issued may not provide the holder with any competitive advantages;
- patents could be challenged by third parties;
- the patents of others, including Alnylam, could impede our ability to do business;
- competitors may find ways to design around our patents; and
- competitors could independently develop products which duplicate our products.

A number of industry competitors and institutions have developed technologies, filed patent applications or received patents on various technologies that may be related to or affect our business. Some of these technologies, applications or patents may conflict with our technologies or patent applications. Such conflict could limit the scope of the patents, if any, that we may be able to obtain or result in the denial of our patent applications. In addition, if patents that cover our activities are issued to other companies, there can be no assurance that we would be able to obtain licenses to these patents at a reasonable cost or be able to develop or obtain alternative technology. If we do not obtain such licenses, we could encounter delays in the introduction of products, or could find that the development, manufacture or sale of products requiring such licenses is prohibited. In addition, we could incur substantial costs in defending patent infringement suits brought against us or in filing suits against others to have such patents declared invalid. As publication of discoveries in the scientific or patent literature often lags behind actual discoveries, we cannot be certain we or any licensor was the first creator of inventions covered by pending patent applications or that we or such licensor was the first to file patent applications for such inventions. Any future proceedings could result in substantial costs, even if the eventual outcomes are favorable. There can be no assurance that our patents, if issued, will be held valid or enforceable by a court or that a competitor's technology or product would be found to infringe such patents.

Our business depends, in part, on our ability to use RNAi technology that we have licensed or will in the future license from third parties, including Alnylam, and, if these licenses were terminated or if we were unable to license additional technology we may need in the future, our business will be adversely affected.

We currently hold licenses for certain technologies that are or may be applicable to our current and subsequent product candidates. These include a license to patents held or applied for by Alnylam and a license to UNA technology from Arcturus Therapeutics. The licenses are subject to termination in the event of a breach by us of the license, if we fail to cure the breach following notice and the passage of a cure period. The UBC license, which is sublicensed to Alnylam, is subject to termination with respect to one or more particular patents if we and Alnylam were to cease patent prosecution or maintenance activities with respect to such patent(s), or in the event of a breach by us of the license, if we fail to cure the breach following notice and the passage of a cure period. There can be no assurance that these licenses will not be terminated. We may need to acquire additional licenses in the future to technologies developed by others, including Alnylam. For example, Alnylam has granted us a worldwide license for the discovery, development and commercialization of RNAi products directed to thirteen gene targets (three exclusive and ten non-exclusive licenses). Licenses for the five non-exclusive targets and one exclusive target have already been granted. We have rights to select the gene targets for up to two more exclusive licenses and five more nonexclusive licenses from Alnylam, which would be made available to us only if they have not been previously selected by Alnylam or one of its other partners. This will limit the targets available for selection by us, and we may never be able to select gene targets or may be required to make our selection from gene targets that have minimal commercial potential. Furthermore, future license agreements may require us to make substantial milestone payments. We will also be obligated to make royalty payments on the sales, if any, of products resulting from licensed RNAi technology. For some of our licensed RNAi technology, we are responsible for the costs of filing and prosecuting patent applications. The termination of a license or the inability to license future technologies on acceptable terms may adversely affect our ability to develop or sell our products.

Our business depends, in part, on our ability to use the technology that we have licensed or will in the future license from third parties, including Blumberg, and Cytos, and, if these licenses were terminated or if we were unable to license additional technology we may need in the future, our business will be adversely affected.

We have licensed certain of our intellectual property from Blumberg and Cytos. Our current technology licenses are critical to our business and we expect to enter into additional licenses in the future. If we fail to comply with our obligations under these agreements or any future license agreements, we are subject to a bankruptcy, or if we grant a sublicense in the future and our sublicense does not comply with our obligations under these agreements or becomes subject to a bankruptcy, the licensor may have the right to terminate the license, in which event we would not be able to develop or market products covered by the license or may face other penalties under the agreements, which would have a materially adverse effect on our business. In addition, applicable laws involving bankruptcy or similar proceeding by licensors in some jurisdictions outside the United States may provide the trustee or receiver in such proceeding with the right to set aside or otherwise terminate or seek to modify the license. Any termination of these agreements or reduction or elimination of our rights under these agreements may result in our having to negotiate new or amended agreements with less favorable terms, or cause us to lose our rights under these agreements, including our rights to important intellectual property and technologies that form the basis of our technology, which may then be in licensed by one or more of our competitors.

We may incur substantial costs as a result of litigation or other proceedings relating to patent and other intellectual property rights which could have a material adverse effect on our business, financial condition and results of operations and could cause the market value of our Common Shares to decline.

There has been significant litigation in the biotechnology industry over contractual obligations, patents and other proprietary rights, and we may become involved in various types of litigation that arise from time to time. Involvement in litigation could consume a substantial portion of our resources, regardless of the outcome of the litigation. Counterparties in litigation may be better able to sustain the costs of litigation because they have substantially greater resources. If claims against us are successful, in addition to any potential liability for damages, we could be required to obtain a license, grant cross-licenses, and pay substantial milestones or royalties in order to continue to develop, manufacture or market the affected products. Involvement and continuation of involvement in litigation may result in significant and unsustainable expense, and divert management's attention from ongoing business concerns and interfere with our normal operations. Litigation is also inherently uncertain with respect to the time and expenses associated therewith, and involves risks and uncertainties in the litigation process itself, such as discovery of new evidence or acceptance of unanticipated or novel legal theories, changes in interpretation of the law due to decisions in other cases, the inherent difficulty in predicting the decisions of judges and juries and the possibility of appeals. Ultimately we could be prevented from commercializing a product or be forced to cease some aspect of our business operations as a result of claims of patent infringement or violation of other intellectual property rights and the costs associated with litigation, which could have a material adverse effect on our business, financial condition, and operating results and could cause the market value of our Common Shares to decline.

Confidentiality agreements with employees and others, including collaborators, may not adequately prevent disclosure of trade secrets and other proprietary information.

Much of our know-how and technology may constitute trade secrets. There can be no assurance, however, that we will be able to meaningfully protect our trade secrets. In order to protect our proprietary technology and processes, we rely in part on confidentiality agreements with our collaborators, employees, vendors, consultants, outside scientific collaborators and sponsored researchers, and other advisors. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover trade secrets and proprietary information, and in such cases we could not assert any trade secret rights against such party. Costly and time consuming litigation could continue to be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

We have licensed critical portions of our intellectual property from Blumberg and Drexel, and are subject to significant obligations under those license agreements.

The rights we hold under our license agreements with Blumberg and Drexel are are important to our business. Our discovery and development platform is built, in part, around patents exclusively in licensed from these parties. For example, the elimination of cccDNA is the most critical element in our combination strategy to cure HBV, and the cccDNA formation inhibitor program is in licensed from Blumberg and Drexel.

We have licenses with Blumberg and Drexel, both directly and through its acquisition of Enantigen, that grant us the exclusive (except in some cases as to know how that is not unique or specific to the licensed products or compound series, which are non-exclusive and subject to retained rights for non-commercial research use), worldwide license to make, have made, use, import, offer for sale and sell products incorporating one or more licensed compounds, which include cccDNA inhibitors, capsid assembly inhibitors, inhibitors of secretion of HBV antigens and hepatocellular carcinoma inhibitors, either for general use in humans or for use in the field of HBV research, diagnosis and treatment. Our license with Cytos grants us the exclusive, worldwide, sub licensable (subject to certain restrictions with respect to licensed viral infections other than hepatitis) license, under patents and know-how controlled by Cytos, to research, develop, manufacture and commercialize, for the diagnosis, treatment or prevention of hepatitis viruses in humans, licensed products that incorporate Q beta-derived virus-like particles that are filled with TLR9, TLR7 or RIG-I agonists.

Under our agreements with Blumberg, Drexel and Cytos, we are subject to significant obligations, including diligence obligations with respect to development and commercialization activities, payment obligations upon achievement of certain milestones and royalties on product sales, as well as other material obligations. Under our direct agreement with Blumberg and Drexel, we agreed to pay up to $3.5 million in development and regulatory milestones per licensed compound series, up to $92.5 million in sales performance milestones per licensed product, and royalties in the mid-single digits in connection with the sale of licensed products. Under each of the three license agreements that our subsidiary, Enantigen, has with Blumberg and Drexel, we are obligated to pay up to $500,000 in development and regulatory milestones per licensed product and royalties in the low single digits in connection with the sale of licensed products. Under our agreement with Cytos, we agreed to pay up to $67 million upon the achievement of specified development and regulatory milestones for hepatitis and each additional licensed viral infection, in each case for each of the six licensed compound series, up to $110 million upon the achievement of specified sales performance milestones, and tiered royalty payments at a royalty rate in the high-single to low double digits, based upon net sales of licensed products. If these payments become due under the terms of the agreements, we may be negatively affected.

If there is any conflict, dispute, disagreement or issue of non-performance between us and Blumberg, Drexel, or Cytos regarding our rights or obligations under these license agreements, including any conflict, dispute or disagreement arising from our failure to satisfy diligence or payment obligations under such agreements, Blumberg and Drexel or Cytos, as applicable, may have a right to terminate the license. The loss of any of these license agreements could materially and adversely affect our ability to use intellectual property that is critical to our drug discovery and development efforts, as well as its ability to enter into future collaboration, licensing and/or marketing agreements for one or more affected drug candidates or development programs.

Some of our licensors have retained rights to develop and commercialize certain of our drug candidates to treat diseases other than HBV and, as a result, our development and commercialization efforts may be negatively affected.

Our license agreements provide us with the rights to develop and commercialize our drug candidates for HBV; however, some of our licensors have retained rights to develop and commercialize certain of its drug candidates to treat diseases other than HBV, and to license those rights to other third parties. For example, Cytos has retained all rights with respect to development of the licensed products for influenza, all non-viral infections and certain viral infections other than hepatitis.

If we obtain regulatory approval for our TLR9 agonist for HBV and Cytos obtains regulatory approval for a drug candidate that has the same active ingredient as our TLR9 agonist for another indication, and if each is available outside of a combination therapy, physicians may prescribe the Cytos drug, instead of our drug, to patients with HBV if, for example, the cost of the Cytos drug is less than our drug. In this case, we would not be receiving any payments on the account of such sales and our revenue would be adversely affected.

Risks Related to Competition

The pharmaceutical market is intensely competitive. If we are unable to compete effectively with existing drugs, new treatment methods and new technologies, we may be unable to successfully commercialize any product candidates that we develop.

The pharmaceutical market is intensely competitive and rapidly changing. Many large pharmaceutical and biotechnology companies, academic institutions, governmental agencies and other public and private research organizations are pursuing the development of novel drugs for the same diseases that we are targeting or expect to target. Many of our competitors have:

- much greater financial, technical and human resources than we have at every stage of the discovery, development, manufacture and commercialization process;
- more extensive experience in pre-clinical testing, conducting clinical trials, obtaining regulatory approvals, and in manufacturing, marketing and selling pharmaceutical products;
- product candidates that are based on previously tested or accepted technologies;
- products that have been approved or are in late stages of development; and
- collaborative arrangements in our target markets with leading companies and research institutions.

We will face intense competition from products that have already been approved and accepted by the medical community for the treatment of the conditions for which we are currently developing products. We also expect to face competition from new products that enter the market. We believe a significant number of products are currently under development, and may become commercially available in the future, for the treatment of conditions for which we may try to develop products. These products, or other of our competitors' products, may be more effective, safer, less expensive or marketed and sold more effectively, than any products we develop.

We are aware of several companies that are working to develop drugs that would compete against our drug candidates for HBV treatment. As a significant unmet medical need exists for HBV, there are several large and small pharmaceutical companies focused on delivering therapeutics for treatment of HBV. Further, it is likely that additional drugs will become available in the future for the treatment of HBV. We will face competition from other drugs currently approved or that will be approved in the future for the treatment of chronic hepatitis B.

We anticipate significant competition in the HBV market with several early phase product candidates announced. We will also face competition for other product candidates that we expect to develop in the future.

If we successfully develop product candidates, and obtain approval for them, we will face competition based on many different factors, including the following:

- safety and effectiveness of our products
- ease with which our products can be administered and the extent to which patients and physicians accept new routes of administration;
- timing and scope of regulatory approvals for these products;
- availability and cost of manufacturing, marketing and sales capabilities;
- price;
- reimbursement coverage; and
- patent position.

Our competitors may develop or commercialize products with significant advantages over any products we develop based on any of the factors listed above or on other factors. Our competitors may therefore be more successful in commercializing their products than we are which could adversely affect our competitive position and business. Competitive products may make any products we develop obsolete or uncompetitive before we can recover the expenses of developing and commercializing our product candidates. Such competitors could also recruit our employees, which could negatively impact our level of expertise and the ability to execute on our business plan. Furthermore, we also face competition from existing and new treatment methods that reduce or eliminate the need for drugs, such as the use of advanced medical devices. The development of new medical devices or other treatment methods for the diseases we are targeting and may target could make our product candidates non-competitive, obsolete or uneconomical.

We face competition from other companies that are working to develop novel products using technology similar to ours. If these companies develop products more rapidly than we do or their technologies, including delivery technologies, are more effective than ours, then our ability to successfully commercialize products will be adversely affected.

We face significant competition from other biotechnology and pharmaceutical companies targeting HBV.

As a significant unmet medical need exists for HBV, there are several large and small pharmaceutical companies focused on delivering therapeutics for treatment of HBV. These companies include Johnson and Johnson, Gilead Sciences, Roche Holding AG, Arrowhead Research, GlaxoSmithKline/Ionis Pharmaceuticals, Alnylam Pharmaceuticals, Assembly Biosciences, Bristol-Myers Squibb, Spring Bank Pharmaceuticals, Replicor, and ContraVir Pharmaceuticals. Further, it is likely that additional drugs will become available in the future for the treatment of HBV.

We are aware of several companies that are working to develop drugs that would compete against our drug candidates for HBV treatment. Many of our existing or potential competitors have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of drug candidates, as well as in obtaining regulatory approvals of those drug candidates in the United States and in foreign countries. Our current and potential future competitors also have significantly more experience commercializing drugs that have been approved for marketing. Mergers and acquisitions in the pharmaceutical and biotechnology industries could result in even more resources being concentrated among a small number of our competitors.

Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, drug candidates that are more effective or less costly than any drug candidate that we may develop.

We will face competition from other drugs currently approved or that will be approved in the future for the treatment of HBV. Therefore, our ability to compete successfully will depend largely on our ability to:

- discover, develop and commercialize drugs that are superior to other products in the market;
- demonstrate through our clinical trials that our drug candidates are differentiated from existing and future therapies;
- attract qualified scientific, product development and commercial personnel;
- obtain patent or other proprietary protection for our drugs and technologies;
- obtain required regulatory approvals;
- successfully collaborate with pharmaceutical companies in the discovery, development and commercialization of new drugs; and
- negotiate competitive pricing and reimbursement with third party payors.

The availability of our competitors' products could limit the demand, and the price we are able to charge, for any drug candidate we develop. The inability to compete with existing or subsequently introduced drug candidates would have a material adverse impact on our business, financial condition and prospects.

Established pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in license novel compounds that could make our drug candidates less competitive. In addition, any new product that competes with an approved product must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, discovering, developing or receiving FDA approval for or commercializing medicines before we do, which would have a material adverse impact on our business.

Risks Related to the Ownership of our Common Shares

If our stock price fluctuates, our investors could incur substantial losses.

The market price of our Common Shares may fluctuate significantly in response to factors that are beyond our control. The stock market in general has recently experienced extreme price and volume fluctuations. The market prices of securities of pharmaceutical and biotechnology companies have been extremely volatile, and have experienced fluctuations that often have been unrelated or disproportionate to the operating performance of these companies. These broad market fluctuations could result in extreme fluctuations in the price of our Common Shares, which could cause our investors to incur substantial losses.

There is no assurance that an active trading market in our Common Shares will be sustained.

Our Common Shares are listed for trading on the NASDAQ exchange. However, there can be no assurances that an active trading market in our Common Shares on these stock exchanges will be sustained.

We are incorporated in Canada and the majority of our assets, and some of our officers reside outside the United States, with the result that it may be difficult for investors to enforce any judgments obtained against us or some of our officers.

Arbutus, and some of its subsidiaries, are incorporated under the laws of the Province of British Columbia and the majority of Arbutus' assets are located outside the United States. While we have appointed National Registered Agents, Inc. as our agent for service of process to effect service of process within the United States upon us, it may not be possible for you to enforce against us or those persons in the United States, judgments obtained in U.S. courts based upon the civil liability provisions of the U.S. federal securities laws or other laws of the United States. In addition, there is doubt as to whether original action could be brought in Canada against us or our directors or officers based solely upon U.S. federal or state securities laws and as to the enforceability in Canadian courts of judgments of U.S. courts obtained in actions based upon the civil liability provisions of U.S. federal or state securities laws.

If we are deemed to be a "passive foreign investment company" for the current or any future taxable year, investors who are subject to United States federal taxation would likely suffer materially adverse U.S. federal income tax consequences.

We generally will be a “passive foreign investment company” under the meaning of Section 1297 of the U.S. Internal Revenue Code of 1986, as amended (the “Code”), (a “PFIC”) if (a) 75% or more of our gross income is “passive income” (generally, dividends, interest, rents, royalties, and gains from the disposition of assets producing passive income) in any taxable year, or (b) if at least 50% or more of the quarterly average value of our assets produce, or are held for the production of, passive income in any taxable year. A shareholder who is a U.S. person (as such term is defined under applicable U.S. legislation) should be aware that we believe that we were a PFIC during one or more prior taxable years. We have not yet made a determination as to whether we were a PFIC in respect of our taxable year ended December 31, 2015. If we are a PFIC for any taxable year during which a U.S. person holds our Common Shares, it would likely result in materially adverse U.S. federal income tax consequences for such U.S. person, including, but not limited to, any gain from the sale of our Common Shares would be taxed as ordinary income, as opposed to capital gain, and such gain and certain distributions on our Common Shares would be subject to an interest charge, except in certain circumstances. It may be possible for U.S. persons to fully or partially mitigate such tax consequences by making a “qualifying electing fund election,” as defined in the Code (a “QEF Election”), but there is no assurance that we will provide such persons with the information that we are required to provide to them in order to assist them in making a QEF Election. In addition, U.S. persons that hold Common Shares issuable upon exercise of warrants are generally not eligible to make certain elections available under the Code that are intended to mitigate the adverse tax consequences of PFIC rules with respect to such warrant shares unless such holders also elect to make a deemed taxable sale of their warrant shares. The PFIC rules are extremely complex.

Our articles and certain Canadian laws could delay or deter a change of control.

Our preferred shares are available for issuance from time to time at the discretion of our board of directors, without shareholder approval. Our articles allow our board, without shareholder approval, to determine the special rights to be attached to our preferred shares, and such rights may be superior to those of our Common Shares.

In addition, limitations on the ability to acquire and hold our Common Shares may be imposed by the Competition Act in Canada. This legislation permits the Commissioner of Competition of Canada to review any acquisition of a significant interest in us. This legislation grants the Commissioner jurisdiction to challenge such an acquisition before the Canadian Competition Tribunal if the Commissioner believes that it would, or would be likely to, result in a substantial lessening or prevention of competition in any market in Canada. The Investment Canada Act subjects an acquisition of control of a company by a non-Canadian to government review if the value of our assets, as calculated pursuant to the legislation, exceeds a threshold amount. A reviewable acquisition may not proceed unless the relevant minister is satisfied that the investment is likely to result in a net benefit to Canada. Any of the foregoing could prevent or delay a change of control and may deprive or limit strategic opportunities for our shareholders to sell their shares.

The exercise of all or any number of outstanding stock options, the award of any additional options, bonus shares or other stock-based awards or any issuance of shares to raise funds or acquire a business may dilute your Common Shares.

We have in the past and may in the future grant to some or all of our directors, officers and employees options to purchase our Common Shares and other stock-based awards as non-cash incentives to those persons. The issuance of any equity securities could, and the issuance of any additional shares will, cause our existing shareholders to experience dilution of their ownership interests.

Any additional issuance of shares or a decision to acquire other businesses through the sale of equity securities may dilute our investors’ interests, and investors may suffer dilution in their net book value per share depending on the price at which such securities are sold. Such issuance may cause a reduction in the proportionate ownership and voting power of all other shareholders. The dilution may result in a decline in the price of our Common Shares or a change in control.

We do not expect to pay dividends for the foreseeable future.

We have not paid any cash dividends to date and we do not intend to declare dividends for the foreseeable future, as we anticipate that we will reinvest future earnings, if any, in the development and growth of our business. Therefore, investors will not receive any funds unless they sell their Common Shares, and shareholders may be unable to sell their shares on favorable terms or at all. We cannot assure you of a positive return on investment or that you will not lose the entire amount of your investment in our Common Shares. Prospective investors seeking or needing dividend income or liquidity should not purchase our Common Shares.

The value of our securities, including our Common Shares, might be affected by matters not related to our operating performance and could subject us to securities litigation.

The value of our Common Shares may be reduced for a number of reasons, many of which are outside our control, including:

- general economic and political conditions in Canada, the United States and globally;
- governmental regulation of the health care and pharmaceutical industries;
- failure to achieve desired drug discovery outcomes by us or our collaborators;
- failure to obtain industry partner and other third party consents and approvals, when required;
- stock market volatility and market valuations;
- competition for, among other things, capital, drug targets and skilled personnel;
- the need to obtain required approvals from regulatory authorities;
- revenue and operating results failing to meet expectations in any particular period;
- investor perception of the health care and pharmaceutical industries;
- limited trading volume of our Common Shares;
- announcements relating to our business or the businesses of our competitors; and
- our ability or inability to raise additional funds.

The concentration of the common shares ownership with insiders will likely limit the ability of the other shareholders to influence corporate matters.

As of February 29, 2016, executive officers, directors, five percent or greater shareholders, and their respective affiliated entities of the Arbutus beneficially own, in the aggregate, approximately 38% of Arbutus' outstanding common shares. As a result, these shareholders, acting together, have significant influence over most matters that require approval by Arbutus' shareholders, including the election of directors and approval of significant corporate transactions. Corporate actions might be taken even if other shareholders oppose them. This concentration of ownership might also have the effect of delaying or preventing a corporate transaction that other shareholders may view as beneficial.

If securities analysts do not publish research or reports about the business of Arbutus, or if they publish negative evaluations, the price of Arbutus' Common Shares could decline.

The trading market for the Arbutus Common Shares may be impacted by the availability or lack of research and reports that third-party industry or financial analysts publish about Arbutus. There are many large, publicly traded companies active in the biopharmaceutical industry, which may mean it will be less likely that Arbutus receives widespread analyst coverage. Furthermore, if one or more of the analysts who do cover Arbutus downgrade its stock, its stock price would likely decline. If Arbutus does not receive adequate coverage by reputable analysts that have an understanding of Arbutus' business and industry, it could fail to achieve visibility in the market, which in turn could cause its stock price to decline.

Item 1B. Unresolved Staff Comments

There are no unresolved staff comments at the moment.

Item 2. Properties

Our head office and principal place of business is located at 100-8900 Glenlyon Parkway, Burnaby, British Columbia, Canada, V5J 5J8. The Company leases a 51,000 square foot facility. On June 23, 2014, we signed a renewal agreement to the operating lease for its laboratory and office premises. The renewal is effective August 1, 2014 and expires July 31, 2019, but we have the option to extend the lease to 2024, 2029, and 2034. We believe that the total space available to us under our current lease will meet our needs for the foreseeable future and that additional space would be available to us on commercially reasonable terms if required.

Our U.S. Office is located at 3805 Old Easton Road, Doylestown, PA 18902, in an approximately 2,600 square feet of leased office space.

Item 3. Legal Proceedings

We are involved with various legal matters arising in the ordinary course of business. We make provisions for liabilities when it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Such provisions are reviewed at least quarterly and adjusted to reflect the impact of any settlement negotiations, judicial and administrative rulings, advice of legal counsel, and other information and events pertaining to a particular case. Litigation is inherently unpredictable. Although the ultimate resolution of these various matters cannot be determined at this time, we do not believe that such matters, individually or in the aggregate, will have a material adverse effect on our consolidated results of operations, cash flows, or financial condition.

Alnylam Pharmaceuticals Inc.

On June 21, 2013, we transferred manufacturing process technology to Ascletis Pharmaceuticals (Hangzhou) Co., Ltd. ("Ascletis") to enable them to produce ALN-VSP, a product candidate licensed to them by Alnylam Pharmaceuticals Inc., or Alnylam. We believed that under a licensing agreement with Alnylam, the technology transfer to Ascletis triggered a $5 million milestone obligation from Alnylam to Arbutus. However, Alnylam demanded a declaration that we had not yet met our milestone obligations. We disputed Alnylam's position. To remedy this dispute, the parties commenced arbitration proceedings, as provided for under the agreement. In addition to seeking a declaration that we had met our obligations under the agreement, we have also stated a claim for breach of contract, breach of the implied covenant of good faith and fair dealing, and fraud. The arbitration proceeding with Alnylam has concluded resulting in no milestone payment to Arbutus.

University of British Columbia

Certain early work on lipid nanoparticle delivery systems and related inventions was undertaken at the University of British Columbia (UBC). These inventions are licensed to us by UBC under a license agreement, initially entered in 1998 as amended in 2001, 2006 and 2007. We have granted sublicenses under the UBC license to Alnylam as well as to Talon. Alnylam has in turn sublicensed back to us under the licensed UBC patents for discovery, development and commercialization of RNAi products. In mid-2009, we and our subsidiary Protiva entered into a supplemental agreement with UBC, Alnylam and Acuitas Technologies, Inc., in relation to a separate research collaboration to be conducted among UBC, Alnylam and Acuitas to which we have license rights. The settlement agreement signed in late 2012 to resolve the litigation among Alnylam, Acuitas, Arbutus and Protiva provided for the effective termination of all obligations under such supplemental agreement as between and among all litigants.

On November 10, 2014, the University of British Columbia filed a demand for arbitration against us, BCICAC File No.: DCA-1623. We received UBC's Statement of Claims on January 16, 2015. In its Statement of Claims, UBC alleges that it is entitled to $3.5 million in allegedly unpaid royalties based on publicly available information, and an unspecified amount based on non-public information. UBC also seeks interest and costs, including legal fees. We dispute UBC's allegation. No dates have been scheduled for this arbitration.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Our common shares trade on the NASDAQ Global Market under the symbol "ABUS" following our Company name change to Arbutus Biopharma Corporation on July 31, 2015. Since November 15, 2010, our common shares traded on the NASDAQ Global Market under the symbol "TKMR". Our common shares previously traded on the Toronto Stock Exchange (TSX) in Canada under the symbol "TKM", but were voluntarily delisted from as of March 3, 2015. As at February 29, 2016, there were 130 registered holders of common shares and 54,625,703 common shares issued and outstanding. The following table shows the progression in the high and low trading prices of our common shares on the NASDAQ Global Market and the TSX for the periods listed:

	NASDAQ High (US$)	NASDAQ Low (US$)	TSX High (C$)	TSX Low (C$)
Year Ended:				
December 31, 2015[1]	$ 26.73	$ 4.25	$ 33.76	$ 17.05
December 31, 2014	$ 31.48	$ 7.65	$ 34.66	$ 8.14
Quarter Ended:				
December 31, 2015	$ 6.74	$ 4.25	N/A	N/A
September 30, 2015	$ 12.46	$ 5.75	N/A	N/A
June 30, 2015	$ 19.61	$ 11.50	N/A	N/A
March 31, 2015[1]	$ 26.73	$ 14.50	$ 33.76	$ 17.05
December 31, 2014	$ 29.93	$ 12.54	$ 33.69	$ 14.37
September 30, 2014	$ 26.05	$ 8.86	$ 28.56	$ 9.55
June 30, 2014	$ 24.47	$ 10.20	$ 26.99	$ 11.08
March 31, 2014	$ 31.48	$ 7.65	$ 34.66	$ 8.14
Month Ended:				
February 29, 2016	$ 3.29	$ 2.72	N/A	N/A
January 31, 2016	$ 4.71	$ 3.12	N/A	N/A

Notes:

(1) Our common shares were voluntarily delisted from the Toronto Stock Exchange (TSX) as of the close of business on Tuesday, March 3, 2015. High and low trading prices above are for the period January 1, 2015 to March 2, 2015.

Material Modifications to the Rights of Security Holders/Use of Proceeds

Not applicable.

Purchase of Equity Securities by the Issuer and Affiliated Purchasers

Not applicable.

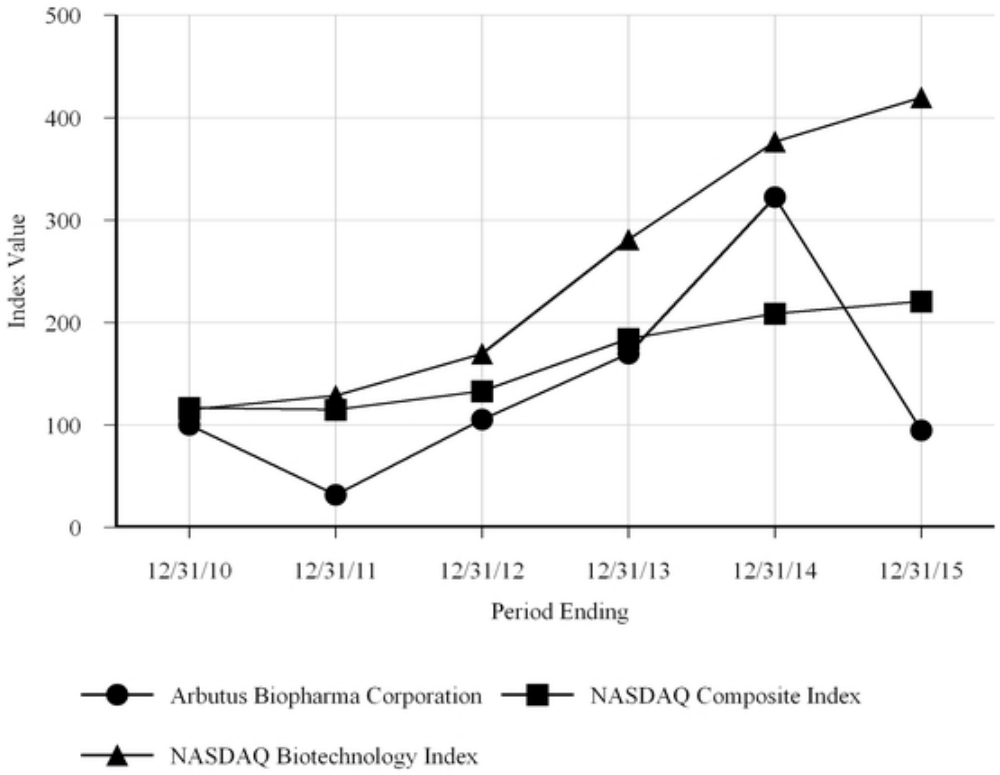
Recent Sales of Unregistered Securities

None.

Stock Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

The following graph compares the cumulative shareholder return on an investment of US$100 in the Common Shares of the Company on the NASDAQ from December 31, 2010, with a cumulative total shareholder return on the NASDAQ Composite and NASDAQ Biotechnology Indices.



Geographic Breakdown of Shareholders

As of February 29, 2016, our shareholder register indicates that our common shares are held as follows:

Location	Number of Shares	Percentage of Total Shares	Number of Registered Shareholders of Record
Canada	16,009,721	29.3%	99
United States	22,601,758	41.4%	27
Other	16,014,224	29.3%	4
Total	54,625,703	100%	130

Our securities are recorded in registered form on the books of our transfer agent, CST Trust Company, located at 1600-1066 West Hastings Street, Vancouver, BC V6E 3X1. However, the majority of such shares are registered in the name of intermediaries such as brokerage houses and clearing houses (on behalf of their respective brokerage clients). We are permitted, upon request to our transfer agent, to obtain a list of our beneficial shareholders who do not object to their identities being disclosed to us. We are not permitted to obtain from our transfer agent a list of our shareholders who have objected to their identities being disclosed to us.

Shares registered in intermediaries were assumed to be held by residents of the same country in which the clearing house was located.

Dividends

We have not declared or paid any dividends on our common shares since the date of our incorporation. We intend to retain our earnings, if any, to finance the growth and development of our business and do not expect to pay dividends or to make any other distributions in the near future. Our board of directors will review this policy from time to time having regard to our financing requirements, financial condition and other factors considered to be relevant.

Item 6. Selected Consolidated Financial Data

The following table presents selected financial data derived from Arbutus' audited consolidated financial statements for each of the five years for the period ending December 31, 2015. You should read this information in conjunction with our financial statements for the periods presented, as well as Item 1 " *Business* " and Item 7 " *Management's Discussion and Analysis of Financial Condition and Results of Operations* " included elsewhere in this Annual Report. Historical results are not necessarily indicative of future results.

Summary Financial Information
Under U.S. GAAP (in thousands of US dollars, except per share amounts)

	Year Ended December 31,				
	2015	**2014**	**2013**	**2012**	**2011**
	$	**$**	**$**	**$**	**$**
Operating Data					
Revenue	24,873	14,953	15,465	14,105	16,812
Expenses	127,195	48,387	27,617	27,050	27,505
Loss from operations	(102,322)	(33,434)	(12,152)	(12,945)	(10,694)
Net income (loss)	(77,306)	(38,837)	(14,063)	29,611	(10,083)
Weighted average number of common shares—basic (1)	45,462	21,603	15,303	13,728	11,319
Weighted average number of common shares—diluted (1)	45,462	21,603	15,303	14,321	11,319
Income (loss) per common share—basic	(1.34)	(1.80)	(0.92)	2.16	(0.89)
Income (loss) per common share—diluted	(1.34)	(1.80)	(0.92)	2.07	(0.89)
Balance Sheet Data					
Total current assets	183,882	116,418	70,343	51,243	11,594
Total assets	712,291	118,178	71,716	52,595	13,758
Total liabilities	164,612	30,143	12,522	11,676	8,531
Share capital	864,446	316,212	242,045	206,572	200,965
Total stockholders' equity	547,679	88,035	59,194	40,919	5,227
Number of shares outstanding	54,570,691	22,438,169	19,049,000	14,305,000	12,149,000

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Change in Functional Currency

Prior to January 1, 2016, our functional currency was the Canadian dollar. As such, all dollar amounts in this MD&A related to periods prior to and including the year-ended December 31, 2015 are presented in U.S. dollars with the functional currency as the Canadian dollar. On January 1, 2016, our functional currency changed from the Canadian dollar to the U.S. dollar based on our analysis of changes in the primary economic environment in which we operate. The change in functional currency is accounted for prospectively from January 1, 2016 and financial statements prior to and including the year-ended December 31, 2015 will not be restated for the change in functional currency. Past translation gains and losses from the application of the U.S. dollar as the reporting currency while the Canadian dollar was the functional currency are included as part of cumulative currency translation adjustment, which is reported as a component of shareholder's equity under accumulated other comprehensive loss.

OVERVIEW

Arbutus is a publicly traded industry-leading therapeutic solutions company focused on discovering, developing and commercializing a cure for patients suffering from chronic Hepatitis B Virus (HBV) infection, which leads to serious liver disease. Our pipeline is focused on finding a cure for chronic HBV infection. This HBV pipeline consists of multiple drug candidates, with complementary mechanisms of action, which we expect to use in combination to effect patient benefit.

HBV represents a significant unmet medical need and is the cause of the most common serious liver infection in the world. The World Health Organization estimates that 350 million people worldwide are chronically infected, and other estimates suggest this could include approximately 2 million people in the United States (Kowdley *et al.*, 2012). Individuals chronically infected with HBV are at an increased risk of developing significant liver disease, including cirrhosis, or permanent scarring of the liver, as well as liver failure and hepatocellular carcinoma (HCC) or liver cancer. According to the Hepatitis B Foundation, HBV is the cause of up to 80% of liver cancers. Individuals with liver cancer typically have a five-year survival rate of only 15%. The WHO estimates that more than 780,000 people die every year due to the consequences of hepatitis B virus disease.

Given the complex biology of HBV, we believe combination therapies are the key to HBV treatment and a potential cure, and development can be accelerated when multiple components of a combination therapy regimen are controlled by the same company.

HBV Focused Product Pipeline

We have a pipeline focused on finding a cure for chronic HBV infection, with the objective of developing a combination of products that intervene at different points in the viral life cycle. Given our strong scientific and research capabilities in-house, we are able to conduct preclinical combination studies to evaluate combinations of our proprietary pipeline candidates. Once compounds within the portfolio with sufficient activity have been identified, we intend, subject to discussions with regulatory authorities, to evaluate combinations of two or more drug candidates in cohorts of patients with chronic HBV infection. We expect to use these results to adaptively design additional treatment regimens for the next cohorts. We also plan to evaluate different treatment durations to determine the optimal finite duration of therapy. We plan to continue this iterative process until we select combination therapy regimens and treatment durations to conduct Phase III clinical trials intended to ultimately support regulatory filings for marketing approval.

We intend to continue to expand our HBV pipeline through internal development, acquisitions and in-licenses. We also have a research collaboration agreement with The Baruch S. Blumberg Institute that provides exclusive rights to in-license any intellectual property generated through the collaboration.

RNAi (ARB-1467 & ARB-1740)

The development of RNAi drugs allows for a completely novel approach to treating disease, which is why RNAi is considered one of the most promising and rapidly advancing frontiers in drug discovery. While there are no RNAi therapeutics approved for commercial use, there are a number of RNAi products currently in human clinical trials. RNAi products are broadly applicable as they can eliminate the production of disease-causing proteins from cells, creating opportunities for therapeutic intervention that have not been achievable with conventional drugs. Our extensive experience in antiviral drug development has been applied to our RNAi program to develop therapeutics for chronic hepatitis B infection. Small molecule nucleotide therapy has been the standard of care for chronic HBV infected patients. However, many of these patients continue to express a viral protein called HBV surface antigen (HBsAg). This protein causes inflammation in the liver leading to cirrhosis and, in some cases, HCC and death.

Our lead RNAi HBV candidate, ARB-1467 (formerly TKM-HBV), is designed to eliminate HBsAg expression in patients chronically infected with HBV. Reducing HBsAg is thought to be a key prerequisite to enable a patient’s immune system to raise an adequate immune response against the virus. The ability of ARB-1467 to inhibit numerous viral elements in addition to HBsAg increases the likelihood of affecting the viral infection. ARB-1467 is being developed as a multi-component RNAi therapeutic that simultaneously targets three sites on the HBV genome, including the HBsAg coding region. Targeting three distinct and highly conserved sites on the HBV genome is intended to facilitate potent knockdown of all viral mRNA transcripts and viral antigens across a broad range of HBV genotypes and reduce the risk of developing antiviral resistance.

ARB-1467 results in potent and rapid reduction in HBsAg in several preclinical models. In these models, ARB-1467 treatment resulted in reductions in both intrahepatic and serum HBsAg, as well as reductions in HBV DNA, cccDNA, Hepatitis B e antigen (HBeAg) and HBcAg (Hepatitis B c antigen). A rapid 1 log reduction in serum HBsAg was achieved with a single 1 mg/kg dose of ARB-1467 in the humanized mouse model. 1-2 log viral reductions from similar single-dose LNP treatments in two other true-infection animal models were also demonstrated. Preclinical studies conducted on infected primary human hepatocytes showed that ARB-1467 had robust and consistent activity against different viral strains representing the major clinical genotypes A, B, C and D. Our data shows that inclusion of three RNAi triggers results in a more broadly effective knockdown of hepatitis B viral elements than a single trigger alone. The mode of action of ARB-1467 complements standard of care nucleoside/nucleotide (NUC) therapy, and lack of drug antagonism has been demonstrated with entecavir, lamivudine and tenofovir on infected primary human hepatocytes, making combination therapy a viable option.

ARB-1467 was evaluated in a Phase I Single Ascending Dose trial. The Phase I clinical trial is a randomized, single-blind, placebo-controlled study, involving single ascending doses of ARB-1467 and ARB-1468. The study is assessing the safety, tolerability and pharmacokinetics of intravenous administration of the product in healthy adult subjects. In order to enable maximum dose escalation, steroid premedication was added to the Phase I protocol. No dose limiting toxicities were seen with either formulation through 0.4mg/kg, the highest dose tested in Phase I. At this time, a maximum tolerated dose has not been reached and the protocol has been amended to allow evaluation of higher doses.

The Phase II study evaluates two dose levels of ARB-1467 administered as three monthly doses in chronic HBV infected patients who are on stable background nucleot(s)ide analog therapy. Eight subjects will be enrolled in each of the two dose cohorts with six subjects receiving ARB-1467, and two receiving placebo. The ARB-1467 Phase II multi-dosing study has been initiated and single dose and multi-dose HBsAg reduction data are expected in the second half of 2016.

While we are focused on development of our lead HBV product candidates, we believe in continuous innovation and will incorporate technological and product design advancements that may result in an improvement in safety and/or efficacy. An example of this is our follow-on RNAi HBV candidate, ARB-1740. ARB-1740 is more potent than ARB-1467 in preclinical studies and has the potential to be effective at lower clinical doses than ARB-1467. ARB-1740 employs the same LNP formulation as ARB-1467 (with a different set of three RNAi triggers). We plan to file an IND (or equivalent filing) for ARB-1740 in the second half of 2016.

cccDNA Formation Inhibitors

We are developing small molecule cccDNA formation inhibitors. The inhibition of cccDNA formation is expected to reduce the amount of cccDNA in the infected liver by blocking the formation of new cccDNA. We acquired the exclusive, worldwide rights to this program through an in-license from the Blumberg Institute. We have made significant progress with the discovery of potent and small molecule cccDNA formation inhibitors. As presented at the 2015 International Meeting on Molecular Biology of Hepatitis B Viruses in October 2015, our cccDNA formation inhibitors demonstrate synergy with approved nucleot(s)ide analogs in preclinical models, which could lead to faster declines in cccDNA levels in patients than is seen with nucleot(s)ide analogs alone. We plan to file an IND (or equivalent filing) for our lead cccDNA formation inhibitor in the second half of 2016.

Core Protein/ Capsid Assembly Inhibitors

HBV core protein, or capsid, is required for viral replication and core protein may have additional roles in cccDNA function. Current nucleot(s)side analog therapy significantly reduces serum HBV DNA levels in the serum but significant HBV replication continues in the liver, thereby enabling HBV infection to persist. Effective therapy for patients requires new agents which will effectively block viral replication. We are developing core protein inhibitors (also known as capsid assembly inhibitors) as oral therapeutics for the treatment of chronic HBV infection. By inhibiting assembly of the viral capsid, the ability of hepatitis B virus to replicate is impaired, resulting in reduced cccDNA. We acquired exclusive, worldwide rights to these drug candidates through an in-license from Blumberg and Drexel University, or Drexel, and through Arbutus Inc.’s acquisition of Enantigen Therapeutics, Inc. (Enantigen). We plan to file an IND (or equivalent filing) for our lead candidate in the second half of 2016.

TLR9 Agonist (ARB-1598)

Immune stimulation by toll-like receptor (TLR) agonists may overcome the immunologic blocks that allow chronic HBV persistence, including direct activation of the host's innate antiviral response. Licensed from Cytos Biotechnology Ltd., ("Cytos"), ARB-1598 (formerly CYT003) is a biological carrier which is filled with the immunostimulatory oligonucleotide called G10, a TLR-9 agonist. ARB-1598 has been shown to directly activate B cells and stimulates human plasmacytoid dendritic cells to secrete Interferon alpha, and has previously been utilized in human trials in other indications. ARB-1598 also activates other antigen presenting cells indirectly and promotes the development of TH1 type cytokine response, which is thought to be potentially beneficial in promoting anti-HBV T cell immunity. ARB-1598 is undergoing preclinical evaluation to establish its utility for HBV, and if there is a clear support for this application, we plan to initiate clinical development of ARB-1598 in chronically infected HBV patients in 2016.

Other Research Programs

Surface Antigen Secretion Inhibitors

We are developing multiple small molecule orally bioavailable inhibitors of HBV surface antigen production and secretion. By inhibiting the production and secretion of HBV surface antigen from infected cells, we expect that the immune response of patients treated with this therapy can reengage and thereby mount a more credible response to a hepatitis B virus infection.

cccDNA Epigenetic Modifiers

In addition to cccDNA formation inhibitors, we are developing cccDNA epigenetic modifiers. By controlling cccDNA transcription, we anticipate that we may be able to inhibit the formation of new virus and sub viral particles from cccDNA. This development program, which is currently in the discovery research stage, is based on proof of concept data generated by Blumberg using known inhibitors of enzymes involved in DNA information processing.

STING Agonists

We are developing stimulator of interferon genes (STING) agonists. By activating interferon genes, we anticipate that the body can produce additional interferon alpha and beta, which have antiviral properties. Our development program, which is currently in the discovery research stage, is based on proof of concept data in mice generated by Blumberg which showed that STING agonists can elicit an antiviral response and inhibit HBV replication in mouse liver cells. In collaboration with Blumberg, our plan is to identify potent, orally active small molecule human STING agonists that possess the desired characteristics to progress into human clinical studies.

Cyclophilin Inhibitor (OCB-030)

We licensed from NeuroVive Pharmaceutical AB, or ("NeuroVive"), the exclusive rights to develop and commercialize cyclophilin inhibitor drug candidates, including OCB-030, for the treatment of hepatitis B. After extensive preclinical evaluation of OCB-030 and other competitive cyclophilin inhibitors against HBV, we have concluded that cellular cyclophillins do not play a role in HBV chronic infection and further development of OCB-030 is unwarranted. As a result, we made the decision in October 2015 to discontinue the development of OCB-030 and have suspended our interest in the cyclophilin inhibitor class.

Our Proprietary Delivery Technology

Development of RNAi therapeutic products is currently limited by the instability of the RNAi trigger molecules in the bloodstream and the inability of these molecules to access target cells or tissues following administration. Delivery technology is necessary to protect these drugs in the bloodstream to allow efficient delivery and cellular uptake by the target cells. Arbutus has developed a proprietary delivery platform called Lipid Nanoparticle (LNP). The broad applicability of this platform to RNAi develoment has established Arbutus as a leader in this new area of innovative medicine.

Our proprietary LNP delivery technology allows for the successful encapsulation of RNAi trigger molecules in LNP administered intravenously, which travel through the bloodstream to target tissues or disease sites. LNPs are designed to protect the triggers, and stay in the circulation long enough to accumulate at disease sites, such as the liver or cancerous tumors. LNPs are then taken up into the target cells by a process called endocytosis. Subsequent activation by the changing environment inside the cell causes the LNP to release the trigger molecules, which can then successfully mediate RNAi.

Ongoing Advancements in LNP Technology

Our LNP technology represents the most widely adopted delivery technology in RNAi, which has enabled several clinical trials and has been administered to hundreds of human subjects. Because LNP can enable a wide variety of nucleic acid triggers, including mRNA, we continue to see new product development and partnering opportunities based on our industry-leading delivery expertise and intellectual property. We presented preclinical data in October 2013 at the International mRNA Health Conference in Tubingen, Germany, and in February 2014 at the AsiaTIDES Conference in Toyko, Japan. This data demonstrated that mRNA encapsulated and delivered using our proprietary LNP technology can be effectively delivered and expressed in the liver in tumors and other specific tissues of therapeutic interest.

Arbutus continues to explore opportunities to generate value from its LNP platform technology, which is well suited to deliver therapies based on RNAi, mRNA, gene editing, as well as other technologies.

Suspended Non-HBV RNAi Assets

Our intent is to focus our efforts on discovering, developing and commercializing a cure for patients suffering from chronic HBV infection. As such, pending completion of ongoing studies associated with TKM-PLK1, we have suspended further development of our non-HBV assets and are exploring different strategic options to maximize the value of these assets. Our non-HBV assets include our LNP-based product candidates TKM-PLK for oncology, TKM-Ebola and TKM-Marburg for hemorrhagic fever viruses, TKM-HTG for metabolic disorders, and TKM-ADLH for severe alcohol use disorder. Additional information on these programs can be found in Part I, Item 1, "— Business-Suspended Non-HBV RNAi Assets," of this annual report on Form 10-K.

Partner Programs

Patisiran (ALN-TTR02)

Alnylam has a license to use our IP to develop and commercialize products and may only grant access to our LNP technology to its partners if it is part of a product sublicense. Alnylam's license rights are limited to patents that we have filed, or that claim priority to a patent that was filed, before April 15, 2010. Alnylam does not have rights to our patents filed after April 15, 2010 unless they claim priority to a patent filed before that date. Alnylam will pay us low single digit royalties as Alnylam's LNP-enabled products are commercialized.

In July 2015, Alnylam announced initiation of a Phase III open label OLE study with patisiran (APOLLO-OLE) to evaluate the long-term safety and tolerability of patisiran in ATTR amyloidosis patients with FAP who were previously enrolled in the APOLLO Phase III study. In September 2015, Alnylam reported evidence of reduced pathogenic, misfolded TTR monomers and oligomers in TTR-mediated amyloidosis patients with FAP, and in November 2015 it reported that patisiran demonstrates continued evidence for potential halting of neuropathy progression and improvement in nerve fiber density in patients with FAP. New Drug Application filing for this program is expected in 2017. The patisiran program represents the most clinically advanced application of our LNP delivery technology. Furthermore, Alnylam's results demonstrate that multi-dosing with our LNP has been well-tolerated with treatments out to 21 months.

Marqibo®

Marqibo®, originally developed by Arbutus, is a novel, sphingomyelin/cholesterol liposome-encapsulated formulation of the FDA-approved anticancer drug vincristine. Marqibo's approved indication is for the treatment of adult patients with Philadelphia chromosome-negative acute lymphoblastic leukemia (Ph-ALL) in second or greater relapse or whose disease has progressed following two or more lines of anti-leukemia therapy. Our licensee, Spectrum Pharmaceuticals, Inc. (Spectrum), launched Marqibo through its existing hematology sales force in the United States. We are entitled to mid-single digit royalty payments based on Marqibo's commercial sales. Spectrum has ongoing trials evaluating Marqibo in three additional indications, which are: first line use in patients with Philadelphia Negative Acute Lymphoblastic Leukemia (Ph-ALL), Pediatric ALL and Non-Hodgkin's lymphoma.

DCR-PH1

In November 2014, we signed a licensing and collaboration agreement with Dicerna Pharmaceuticals, Inc. to utilize our LNP delivery technology exclusively in Dicerna's primary hyperoxaluria type 1 (PH1) development program. Dicerna will use our third generation LNP technology for delivery of DCR-PH1, Dicerna's product incorporating its Dicer substrate RNA (DsiRNA) molecule, for the treatment of PH1, a rare, inherited liver disorder that often results in kidney failure and for which there are no approved therapies. In December 2015, Dicerna announced initiation of dosing in healthy volunteers with plans to initiate the Phase I clinical trial in patients with PH1 in 2016.

Strategic Alliances, Licensing Agreements, and Research Collaborations

Alnylam Pharmaceuticals, Inc.

Alnylam has a license to use our IP to develop and commercialize products and may only grant access to our LNP technology to its partners if it is part of a product sublicense. Alnylam's license rights are limited to patents that we have filed, or that claim priority to a patent that was filed, before April 15, 2010. Alnylam does not have rights to our patents filed after April 15, 2010 unless they claim priority to a patent filed before that date. Alnylam will pay low single digit royalties as Alnylam's LNP-enabled products are commercialized. Alnylam currently has three LNP-based products in clinical development: ALN-TTR02 (patisiran), ALN-VSP, and ALN-PCS02.

Our licensing agreement with Alnylam grants us IP rights for the development and commercialization of RNAi therapeutics for specified targets. In consideration for these three exclusive and 10 non-exclusive licenses, we have agreed to pay single-digit royalties to Alnylam on product sales, with milestone obligations of up to $8.5 million on the non-exclusive licenses and no milestone obligations on the three exclusive licenses. Alnylam has also pursued two other LNP-based products through clinical development: ALN-VSP (liver cancer), and ALN-PCS02 (hypercholesterolemia). Alnylam will pay Arbutus low single digit royalties based on commercial sales of Alnylam's LNP-enabled products.

We have entered an arbitration proceeding with Alnylam, as provided for under our licensing agreement, to resolve a matter related to a disputed $5 million milestone payment to Arbutus from Alnylam related to its ALN-VSP product. The arbitration proceeding with Alnylam has concluded resulting in no milestone payment to Arbutus.

Acuitas Therapeutics Inc.

Consistent with the terms of the settlement agreement signed in November 2012, we finalized and entered a cross-license agreement with Acuitas (formerly AlCana Technologies, Inc.) in December 2013. The terms of the cross-license agreement provide Acuitas with access to certain of our earlier IP generated prior to April 2010. At the same time, the terms provide us with certain access to Acuitas' technology and licenses in the RNAi field, along with a percentage of each milestone and royalty payment with respect to certain products. Acuitas has agreed that it will not compete in the RNAi field for a period of five years, ending in November 2017.

Dicerna Pharmaceuticals, Inc.

In November 2014, we signed a licensing agreement and a development and supply agreement with Dicerna to license our LNP delivery technology for exclusive use in Dicerna's PH1 development program. Dicerna will use Arbutus' third generation LNP technology for delivery of DCR-PH1, Dicerna's product incorporates its DsiRNA molecule, for the treatment of PH1, a rare, inherited liver disorder that often results in kidney failure and for which there are no approved therapies. Under the agreements, Dicerna paid Arbutus $2.5 million upfront and will potentially make payments of $22 million in aggregate development milestones, plus a mid-single-digit royalty on future PH1 sales. This partnership also includes a supply agreement under which we will provide clinical drug supply and regulatory support for the rapid advancement of this product candidate.

Monsanto Company

In January 2014, we signed an Option Agreement and a Service Agreement with Monsanto, and granted Monsanto an option to obtain a license to use our proprietary LNP delivery technology. The transaction supports the application of LNP technology and related IP for use in agriculture. The potential value of the transaction could reach $86.2 million following the successful completion of milestones. In January 2014, we received $14.5 million of the $17.5 million in near term payments. We received additional payments of $1.5 million each in June 2014 and October 2014 following the achievement of specific program objectives. In May 2015, the arrangement was amended to extend the option period by approximately five months and we received $1.8 million R&D payment for the extension period. As of December 31, 2015, we have received $19.3 million.

Following the completion of the Phase A extension period in October 2015, no further research activities were conducted under the arrangement, as Monsanto did not elect to proceed to Phase B of the research plan.

On March 4, 2016, Monsanto exercised its option to acquire 100% of the outstanding shares of PADCo, and will pay Arbutus an exercise fee of $1 million. As a result, PADCo is no longer an indirect wholly owned subsidiary of us. In connection with Monsanto's exercise of its option, on March 4, 2016, we entered into an amended Option Agreement. We also entered into an amended Service Agreement on March 4, 2016 to give effect to the grant back to Protiva of new intellectual property created by Monsanto in connection with the exercise of its option. In addition, we entered into an amended License and Services Agreement to recognize Monsanto's early exercise of option before Protiva'a completion of Phases B and C, and introduce a new Technology Transfer Completion Criteria through the amended Option Agreement. Each of the amended Option Agreement, amended License and Services Agreement and amendment to the Service Agreement have been filed as Exhibits to this annual report on Form 10-K.

Spectrum Pharmaceuticals, Inc.

In September 2013, we announced that our licensee, Spectrum, had launched Marqibo® through its existing hematology sales force in the United States. Since then commercial sales have occurred. Arbutus is entitled to mid-single digit royalty payments based on Marqibo®'s commercial sales. Marqibo®, which is a novel sphingomyelin/cholesterol liposome-encapsulated formulation of the FDA-approved anticancer drug vincristine, was originally developed by Arbutus. We out-licensed the product to Talon Therapeutics in 2006, and in July 2013, Talon was acquired by Spectrum. Marqibo®'s approved indication is for the treatment of adult patients with Philadelphia chromosome-negative acute lymphoblastic leukemia (Ph-ALL) in second or greater relapse or whose disease has progressed following two or more lines of anti-leukemia therapy. Spectrum has ongoing trials evaluating Marqibo® in three additional indications, which are: first line use in patients with Ph-ALL, Pediatric ALL and Non-Hodgkin's lymphoma.

University of British Columbia

Certain early work on lipid nanoparticle delivery systems and related inventions was undertaken at the University ofBritish Columbia (UBC). These inventions are licensed to us by UBC under a license agreement, initially entered in 1998 as amended in 2001, 2006 and 2007. We have granted sublicenses under the UBC license to Alnylam as well as to Talon. Alnylam has in turn sublicensed back to us under the licensed UBC patents for discovery, development and commercialization of RNAi products. In mid-2009, we and our subsidiary Protiva entered into a supplemental agreement with UBC, Alnylam and Acuitas Technologies, Inc., in relation to a separate research collaboration to be conducted among UBC, Alnylam and Acuitas to which we have license rights. The settlement agreement signed in late 2012 to resolve the litigation among Alnylam, Acuitas, Arbutus and Protiva provided for the effective termination of all obligations under such supplemental agreement as between and among all litigants.On November 10, 2014, the University of British Columbia filed a demand for arbitration against Arbutus Biopharma Corp., BCICAC File No.: DCA-1623. We received UBC's Statement of Claims on January 16, 2015. In its Statement of Claims, UBC alleges that it is entitled to $3.5 million in allegedly unpaid royalties based on publicly available information, and an unspecified amount based on non-public information. UBC also seeks interest and costs, including legal fees. We dispute UBC's allegation. No dates have been scheduled for this arbitration.

Cytos Biotechnology Ltd

On December 30, 2014, Arbutus Inc., our wholly owned subsidiary, entered into an exclusive, worldwide, sub-licensable (subject to certain restrictions with respect to licensed viral infections other than hepatitis) license to six different series of compounds. The licensed compounds are Qbeta-derived virus-like particles that encapsulate TLR9, TLR7 or RIG-I agonists and may or may not be conjugated with antigens from the hepatitis virus or other licensed viruses. We have an option to expand this license to include additional viral infections other than influenza and Cytos will retain all rights for influenza, all non-viral infections, and all viral infections (other than hepatitis) for which we have not exercised an option.

In partial consideration for this license, we will be obligated to pay Cytos up to a total of $67 million for each of the six licensed compound series upon the achievement of specified development and regulatory milestones; for hepatitis and each additional licensed viral infection, up to a total of $110 million upon the achievement of specified sales performance milestones; and tiered royalty payments in the high-single to low-double digits, based upon the proportionate net sales of licensed products in any commercialized combination.

The Baruch S. Blumberg Institute and Drexel University

In February 2014, Arbutus Inc., our wholly owned subsidiary, entered into a license agreement with Blumberg and Drexel that granted an exclusive (except as to certain know-how and subject to retained non-commercial research rights), worldwide, sub-licensable license to three different compound series: cccDNA inhibitors, capsid assembly inhibitors and HCC inhibitors.

In partial consideration for this license, Arbutus Inc. paid a license initiation fee of $150,000 and issued warrants to Blumberg and Drexel. No warrants were outstanding as at the date Arbutus merged with Arbutus Inc. Under this license agreement, Arbutus Inc. also agreed to pay up to $3.5 million in development and regulatory milestones per licensed compound series, up to $92.5 million in sales performance milestones per licensed product, and royalties in the mid-single digits based upon the proportionate net sales of licensed products in any commercialized combination. We are obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from the sub-licensees, subject to customary exclusions.In November 2014, Arbutus Inc. entered into an additional license agreement with Blumberg and Drexel pursuant to which it received an exclusive (subject to retained non-commercial research rights), worldwide, sub-licensable license under specified patents and know-how controlled by Blumberg and Drexel covering epigenetic modifiers of cccDNA and STING agonists. In consideration for these exclusive licenses, Arbutus Inc. made an upfront payment of $50,000. Under this agreement, we will be required to pay up to $1.0 million for each licensed product upon the achievement of a specified regulatory milestone and a low single digit royalty, based upon the proportionate net sales of compounds covered by this intellectual property in any commercialized combination. We are also obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from its sub-licensees, subject to exclusions.

License Agreements between Enantigen and Blumberg and Drexel

In October 2014, Arbutus Inc., our wholly owned subsidiary, acquired all of the outstanding shares of Enantigen pursuant to a stock purchase agreement. Through this transaction, Arbutus Inc. acquired a HBV surface antigen secretion inhibitor program and a capsid assembly inhibitor program, each of which are now assets of Arbutus, following our merger with Arbutus Inc.

Under the stock purchase agreement, we agreed to pay up to a total of $21.0 million to Enantigen’s selling stockholders upon the achievement of specified development and regulatory milestones, for the first two products that contain either a capsid compound, or a HBV surface antigen compound that is covered by a patent acquired under this agreement; or a capsid compound from an agreed upon list of compounds. The amount paid could be up to a total of $102.5 million in sales performance milestones in connection with the sale of the first commercialized product by us for the treatment of HBV, regardless of whether such product is based upon assets acquired under this agreement; and low single digit royalty on net sales of such first commercialized HBV product, up to a maximum royalty payment of $1.0 million that, if paid, would be offset against our milestone payment obligations.

Under the stock purchase agreement, we also agreed that Enantigen would fulfill its obligations as they relate to the three patent license agreements with Blumberg and Drexel. Pursuant to each patent license agreement, Enantigen is obligated to pay Blumberg and Drexel up to approximately $500,000 in development and regulatory milestones per licensed product, royalties in the low single digits, and a percentage of revenue it receives from its sub-licensees.

Research Collaboration and Funding Agreement with Blumberg

In October 2014, Arbutus Inc., our wholly owned subsidiary, entered into a research collaboration and funding agreement with Blumberg under which we will provide $1.0 million per year of research funding for three years, renewable at our option for an additional three years, for Blumberg to conduct research projects in HBV and liver cancer pursuant to a research plan to be agreed upon by the parties. Blumberg has exclusivity obligations to Arbutus with respect to HBV research funded under the agreement. In addition, we have the right to match any third party offer to fund HBV research that falls outside the scope of the research being funded under the agreement. Blumberg has granted us the right to obtain an exclusive, royalty bearing, worldwide license to any intellectual property generated by any funded research project. If we elect to exercise our right to obtain such a license, we will have a specified period of time to negotiate and enter into a mutually agreeable license agreement with Blumberg. This license agreement will include the following pre negotiated upfront, milestone and royalty payments: an upfront payment in the amount of $100,000; up to $8.1 million upon the achievement of specified development and regulatory milestones; up to $92.5 million upon the achievement of specified commercialization milestones; and royalties at a low single to mid-single digit rates based upon the proportionate net sales of licensed products from any commercialized combination.

NeuroVive Pharmaceutical AB

In September 2014, Arbutus Inc., our wholly owned subsidiary, entered into a license agreement with NeuroVive that granted us an exclusive, worldwide, sub-licensable license to develop, manufacture and commercialize, for the treatment of HBV, oral dosage form sanglifehrin based cyclophilin inhibitors (including OCB-030). Arbutus Inc. became our wholly owned subsidiary by way of a Merger Agreement, which does not trigger any milestone payments. Under this license agreement we have been granted a non-exclusive, royalty free right and license and right of reference to NeuroVive's relevant regulatory approvals and filings for the sole purpose of developing, manufacturing and commercializing licensed products for the treatment of HBV. Under this license agreement, we have (1) an option to expand our exclusive license to include treatment of viral diseases other than HBV and (2) an option, exercisable upon specified conditions, to expand our exclusive license to include development, manufacture and commercialization of non-oral variations of licensed products for treatment of viral diseases other than HBV. NeuroVive retains all rights with respect to development, manufacture and commercialization of licensed products and non-oral variations of licensed products for all indications (other than HBV) for which we have not exercised our option.

In partial consideration for this license, Arbutus Inc. paid NeuroVive a license fee of $1 million. We have conducted significant research and analysis on the NeuroVive Product, OCB-030. Based on this research and analysis, we have decided to discontinue the OCB-030 development program. Otherwise, the license agreement and ongoing relationship with NeuroVive remains in full effect at this time.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The significant accounting policies that we believe to be most critical in fully understanding and evaluating our financial results are revenue recognition, stock-based compensation, share purchase warrant valuation and financial instrument valuation. These accounting policies require us to make certain estimates and assumptions. We believe that the estimates and assumptions upon which we rely are reasonable, based upon information available to us at the time that these estimates and assumptions are made. Actual results may differ from our estimates. Our critical accounting estimates affect our net income or loss calculation.

Revenue Recognition / Our primary sources of revenue have been derived from research and development collaborations and contracts, and licensing fees comprised of initial fees and milestone payments. Payments received under research and development agreements and contracts, which are non-refundable, are recorded as revenue as services are performed and as the related expenditures are incurred pursuant to the agreement, provided collectability is reasonably assured. Revenue earned under research and development manufacturing collaborations where we bear some or all of the risk of a product manufacture failure is recognized when the purchaser accepts the product and there are no remaining rights of return. Revenue earned under research and development collaborations and contracts where we do not bear any risk of product manufacture failure is recognized in the period the work is performed. Revenue earned under contractual arrangements upon the achievement of substantive milestones is recognized in its entirety in the period the payment has been received. We evaluate whether milestones under research and development arrangements are substantive by considering: whether substantive uncertainty exists upon the execution of the arrangement; the event can only be achieved based in whole or in part on our performance or occurrence of a specific outcome resulting from the our performance; any future performance required and payment is reasonable relative to all deliverables; and, payment terms in the arrangement. Initial fees and non-substantive milestone payments are deferred and amortized into income over the estimated period of our involvement as we fulfill our obligations under our agreements.

The revenue that we recognize is a critical accounting estimate because of the volume and nature of the revenues we receive. Some of the research, development and licensing agreements that we have entered into contain multiple revenue elements that are to be recognized for accounting in accordance with our revenue recognition policy. We need to make estimates as to what period the services will be delivered with respect to up-front licensing fees and milestone payments received because these payments are deferred and amortized into income over the estimated period of our ongoing involvement. The actual period of our ongoing involvement may differ from the estimated period determined at the time the payment is initially received and recorded as deferred revenue. This may result in a different amount of revenue that should have been recorded in the period and a longer or shorter period of revenue amortization. When an estimated period changes we amortize the remaining deferred revenue over the estimated remaining time to completion. The rate at which we recognize revenue from payments received for services to be provided under research and development agreements depends on our estimate of work completed to date and total work to be provided. The actual total services provided to earn such payments may differ from our estimates.

Our DoD contract for TKM-Ebola is based on cost reimbursement plus an incentive fee. At the beginning of our fiscal year we estimate our labor and overhead rates for the year ahead. During the year, we re-estimate our labor and overhead rates and adjust our revenue accordingly. Our actual labor and overhead rates will differ from our estimate based on actual costs incurred and the proportion of our efforts on contracts and internal products versus indirect activities. Within minimum and maximum collars, the amount of incentive fee we can earn under the DoD contract varies based on our costs incurred versus budgeted costs, with the exception of the Ebola-Guinea Amendment, which has a fixed incentive fee. During the contractual period, incentive fee revenue and total costs are impacted by management's estimate and judgments which are continuously reviewed and adjusted, as necessary, using the cumulative catch-up method. For the years ended December 31, 2013, 2014 and 2015, we believe we were able to reliably estimate the final contract costs so have recognized the portion of expected incentive fee which has been earned to date.

Our revenue for 2015 was $24.9 million (2014 - $15.0 million, 2013 - $15.5 million) and deferred revenue at December 31, 2015 was $1.1 million (December 31, 2014 - $15.7 million).

Stock-based compensation / The stock-based compensation that we record is a critical accounting estimate due to the value of compensation recorded, the volume of our stock option activity, and the many assumptions that are required to be made to calculate the compensation expense.

Compensation expense is recorded for stock options issued to employees and directors using the fair value method. We must calculate the fair value of stock options issued and amortize the fair value to stock compensation expense over the vesting period, and adjust the expense for stock option forfeitures and cancellations. We use the Black-Scholes model to calculate the fair value of stock options issued which requires that certain assumptions, including the expected life of the option and expected volatility of the stock, be estimated at the time that the options are issued. This accounting estimate is reasonably likely to change from period to period as further stock options are issued and adjustments are made for stock option forfeitures and cancellations. We make an estimate for stock option forfeitures at the time of grant and revise this estimate in subsequent periods if actual forfeitures differ. The term "forfeitures" is distinct from "cancellations" or "expirations" and represents only the unvested portion of the surrendered stock option. For the purpose of calculating fair value, the expected life of stock options granted is five years for employees and eight years for directors and executives. We amortize the fair value of stock options using the straight-line method over the vesting period of the options, generally a period of three years for employees and immediate vesting for directors.

We recorded stock-based compensation expense in 2015 of $22.1 million (2014 - $3.3 million, 2013 - $0.9 million) which includes compensation expense related to the expiration of repurchase rights on replacement awards issued as consideration in the acquisition of Arbutus Inc. of $16.7 million - refer to business combination section below.

Share purchase warrant valuation / The valuation of share purchase warrants is a critical accounting estimate due to the value of liabilities recorded and the many assumptions that are required to calculate the liability, resulting in the classification of our warrant liability as a level 3 financial instrument.

We classify warrants in our consolidated balance sheet as liabilities and revalue them at each balance sheet date. Any change in valuation is recorded in our statement of operations. We use the Black-Scholes pricing model to value the warrants. Determining the appropriate fair-value model and calculating the fair value of registered warrants requires considerable judgment. A small change in the estimates used may cause a relatively large change in the estimated valuation. Due to ongoing changes in our business and general stock market conditions, we continuously assess our warrant fair value assumptions. We adjust the estimated expected life as appropriate, based on the pattern of exercises of our warrants. During the year-ended December 31, 2015, warrant exercise activity continued to decline; as a result, we increased the remaining expected life of outstanding warrants to nine months and seventeen months effective July 1, 2015. As at December 31, 2015, the remaining expected life is three months and eleven months for outstanding warrants expiring in June 2016 and February 2017, respectively.

Our expected volatility is calculated based on our historic share price fluctuations over the same period as our estimated expected life of our outstanding warrants. The risk-free interest rate is based on the Government of Canada rate for bonds with a maturity similar to the expected remaining life of the warrants at the valuation date.

We recorded a gain for the change in fair value of warrant liability in 2015 of $3.3 million (2013 – loss of $10.4 million, 2013 – loss of $3.5 million).

Financial instruments valuation / The valuation of our financial instruments, include Monsanto’s option to acquire either the shares or assets of Protiva Agricultural Development Company Inc. and contingent consideration related to estimated potential future milestone payments to the former Enantigen shareholders as described in the business combination section below. These are critical accounting estimate due to the potential value of the liability and the many assumptions we must make to calculate the fair values of these liabilities.

We classify the financial instrument in our consolidated balance sheet as a liability and revalue it at each balance sheet date. Any change in the valuation is recorded in our statement of operations. We used a discounted cash flow model to value the financial instrument. Determining the appropriate fair value model and calculating the fair value of the financial instrument requires considerable judgment, including probability of success and risk-adjusted discount rates. Changes in assumptions used may cause a relatively large change in the estimated valuation. The initial valuation of the financial instrument was determined to be nil for Monsanto's option and no change in the fair value of the financial instrument was recorded as at December 31, 2015. The initial valuation of the contingent consideration was determined to be $6,727,000, and we have determined that the fair value increased to $7,497,000 as at December 31, 2015. We recorded an adjustment for the increase in fair value of $770,000 in our statement of operations and comprehensive loss. The increase in fair value is a result of our research and development progress bringing the contingent payments forward in terms of timing.

Business combination / The purchase price allocation is a critical accounting estimate due to the many assumptions that are required to calculate the fair value of assets acquired and liabilities assumed during a business combination.

We account for our business combinations using the acquisition method. Under this method, the fair value of the consideration transferred is allocated to the fair values of assets acquired and liabilities assumed. In determining the fair value of the consideration transferred, the acquisition date market price of common shares issued was used. The total consideration transferred is comprised of common shares issued without subjects and common shares issued replacement awards, which are subject to repurchase provisions. As at the acquisition date, we determined the total fair value of the replacement awards and attributed a portion of the replacement awards to pre-combination service as part of the total acquisition consideration, and a portion to post-combination service, which is recognized as compensation expense over the expiry period of repurchase provision rights subsequent to the acquisition date. The fair value of the repurchase awards was determined using the Black-Scholes pricing model with assumed risk-free interest rate of 0.74%, volatility of 81%, a zero dividend yield and an expected life of 4 years. In July 2015, the expiration period of the repurchase rights was amended, resulting in a prospective adjustment to recognize the remaining compensation expense on a straight-line basis over the revised expiration period.

In addition, we make estimates to determine the fair values of assets acquired and liabilities assumed, which include judgments in our determinations of acquired intangible assets and assessment of the fair value of existing property and equipment. Assumed liabilities can include other contingency reserves existing at the time of acquisition. Contingent consideration is recorded for cash payments due upon the completion of certain future development and performance milestones. This liability is recorded as at the acquisition date as the fair value of the contingent consideration, estimated using the income method which utilizes various inputs such as probability of success and risk-adjusted discount rates. In addition, contingent consideration is recorded at its fair value at subsequent reporting dates, with any change in fair value from the previous reporting date recorded in the statement of operations and comprehensive loss, as discussed above.

Goodwill is recognized on acquisition as the excess of the purchase price over the estimated fair values of net identifiable assets acquired and liabilities assumed. Acquisition related expenses are separately recognized from the business combination and are expensed as incurred.

When establishing fair values, we make significant estimates and assumptions, especially with respect to intangible assets. Intangible assets acquired and recorded by us may include patents, intellectual property, and in-process research and development. Estimates include, but are not limited to the forecasting of future cash flows and discount rates.

Our estimates for the fair values of assets acquired and liabilities assumed with respect to our acquisition of Arbutus Inc. are final for the period ended December 31, 2015. We have engaged a third-party valuation specialist to assist us to determine the fair values. Our estimates of fair values are based upon assumptions that we believe to be reasonable, but which are inherently uncertain and unpredictable; therefore, actual results may differ from estimates, thereby impacting our earnings.

Goodwill and intangible assets - Impairment / Intangible assets classified as indefinite-lived and goodwill are not amortized, but are evaluated for impairment annually using a measurement date of December 31. In addition, if there is a major event indicating that the carrying value of an asset may not be recoverable, then management will perform an impairment test by comparing the discounted cash flow values to each asset's carrying value to determine if a write down is necessary. Such indicators include, but are not limited to on an ongoing basis: (a) industry and market considerations such as an increased competitive environment or an adverse change in legal factors including an adverse assessment by regulators; (b) an accumulation of costs significantly in excess of the amount originally expected for the development of the asset; (c) current period operating or cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the use of the asset; and (d) if applicable, a sustained decrease in share price.

In assessing impairment, significant judgments are required by management to estimate future cash flows, appropriate discount rates, and other estimates and assumptions that could materially affect the determination of fair value. These judgments include the use of, but are not limited to: projected results of operations and forecast cash flows based on our corporate model as approved by our Board of Directors, third party forecasts and data and other macroeconomic indicators that forecasts market conditions and our estimated future revenues and growth.

In October 2015, we announced the discontinuance of the cyclophilin drug candidate, OCB-030. Although the final conclusion on discontinuance was made subsequent to the end of the third quarter, it reflected our best estimate as at September 30, 2015, and as such we recorded an estimated impairment charge of $38.0 million in Q3 2015. We revised certain estimates in Q4, and finalized our purchase price allocation which resulted in an incremental adjustment of $1.0 million to the fair value of cyclophilins. The total impairment charge of $39.0 million is reflected in our statement of operations and cumulative loss for the year-ended December 31, 2015.

Goodwill is subject to a two-step impairment test. The first step compares the fair value of the reporting unit to the carrying amount, which includes goodwill. If the carrying amount exceeds the implied fair value of the goodwill, the second step measures the amount of the impairment loss. As part of the impairment evaluation of goodwill, we identified only one reporting unit to which the total carrying amount of goodwill has been assigned. We used a valuation specialist to assist us in determining the fair value of the reporting unit under the income approach. For step one of the impairment test, we determined that the fair value of the reporting unit exceeded the carrying value of the reporting unit, and as such, step two was not required. . In addition to the income approach, we considered the market capitalization of approximately $242.8 million as at December 31, 2015. Although the Company's carrying value of $547.7 million exceeded the market capitalization, we reconciled the income approach determination of fair value with the market capitalization by considering macroeconomic factors, and as such, we do not believe that market capitalization appropriately reflected the value of the Company for the purpose of testing goodwill impairment. No impairment charge on goodwill was recorded for the year ended December 31, 2015.

SUMMARY OF QUARTERLY RESULTS

The following table presents our unaudited quarterly results of operations for each of our last eight quarters. These data have been derived from our unaudited condensed consolidated financial statements, which were prepared on the same basis as our annual audited financial statements and, in our opinion, include all adjustments necessary, consisting solely of normal recurring adjustments, for the fair presentation of such information.

(in millions $ except per share data) – unaudited

	Q4 2015	Q3 2015	Q2 2015	Q1 2015	Q4 2014	Q3 2014	Q2 2014	Q1 2014
Revenue								
Collaborations and contracts:								
DoD	$(0.1)	$2.0	$1.9	$3.0	$2.8	$1.5	$0.9	$3.2
Monsanto	3.9	0.3	0.3	0.2	0.3	0.3	0.3	0.3
Dicerna	0.7	0.7	0.2	0.2	0.3	0.2	—	—
Other	—	—	—	—	—	1.6	—	0.2
	4.5	3.0	2.4	3.4	3.4	3.6	1.2	3.7
Alnylam and Acuitas licensing fee and milestone payments	—	—	—	—	—	—	—	0.2
Monsanto licensing fees and milestone payments	7.9	0.7	0.8	0.8	0.9	0.7	0.6	0.5
Dicerna licensing fee	0.3	0.3	0.3	0.3	0.1	—	—	—
Spectrum milestone and royalty payments	0.1	0.1	0.1	0.1	—	0.1	—	—
Total revenue	**12.7**	**4.1**	**3.6**	**4.6**	**4.4**	**4.4**	**1.8**	**4.4**
Expenses	(24.4)	(62.2)	(17.9)	(22.7)	(15.6)	(11.2)	(11.2)	(10.4)
Other income (losses)	5.5	14.0	(0.5)	6.0	5.0	(1.8)	3.3	(12.0)
Loss before income taxes	**(6.2)**	**(44.2)**	**(14.8)**	**(12.1)**	**(6.2)**	**(8.6)**	**(6.1)**	**(18.0)**
Income tax benefit	1.0	15.2						
Net loss	**$(5.2)**	**$(29.0)**	**$(14.8)**	**$(12.1)**	**$(6.2)**	**$(8.6)**	**$(6.1)**	**$(18.0)**
Basic and diluted net loss per share	**$(0.10)**	**$(0.57)**	**$(0.27)**	**$(0.40)**	**$(0.27)**	**$(0.39)**	**$(0.28)**	**$(0.91)**

Quarterly Trends

Revenue / Our revenue is derived from research and development collaborations and contracts, licensing fees, milestone and royalty payments. Over the past two years, our principal sources of ongoing revenue have been our Monsanto collaboration and our contract with the DoD to advance TKM-Ebola. The DoD contract was terminated in October 2015 and we are currently working through close out procedures with the DoD. Our collaboration with Monsanto effectively ended in October when Phase A research was completed. We expect revenue to continue to fluctuate due to the irregular nature of licensing and milestone receipts under our collaboration and licensing contracts.

In Q3 2010 we signed a contract with the DoD to develop TKM-Ebola and have since incurred significant program costs related to equipment, materials and preclinical and clinical studies. These costs are included in our research, development, collaborations and contracts expenses. These costs are fully reimbursed by the DoD, and this reimbursement amount is recorded as revenue. DoD revenue from the TKM-Ebola program also compensates us for labor and overheads and provides an incentive fee. As described in our critical accounting policies in our Annual Report, we estimate the labor and overhead rates to be charged under our TKM-Ebola contract and update these rate estimates throughout the year. In April 2014, we signed a contract modification to increase the stage one targeted funding by $2.1 million to $43.8 million. The additional funding is to compensate us for unrecovered costs related to the temporary stop-work period that occurred in 2012 and to provide additional overhead funding should it be required. In Q1 2014, we earned $3.2 million in DoD revenue, due partially to an increase in activity as we moved into a Phase I Clinical Trial. In Q2 2014, we earned $0.9 million in DoD revenue due to lower contract activity as our clinical trial data was with the FDA for review. DoD revenue increased in Q3 2014 with an increase in activity as we prepared a response to the FDA's partial clinical hold on our Phase I Clinical Trial. In October 2014, the DoD exercised a contract option adding $7.0 million to the contract for the scale-up and manufacture of TKM-Ebola-Guinea, our product targeting the Ebola-Makona (formerly known as Ebola-Guinea) strain responsible for the outbreak in West Africa. DoD revenue increased in Q4 2014 and Q1 2015 as we purchased materials and manufactured TKM-Ebola-Guinea. In Q2 2015, material purchases and subcontract work related to TKM-Ebola-Guinea were less significant. In July 2015, we announced that activities had been suspended and in October 2015, we received formal notification from the DoD to terminate the TKM-Ebola-Guinea manufacturing and IND submission activities, subject to completion of our post-termination obligations. In Q4, we purchased some lipids back from the DoD and proceeded with contract close out.

In January 2014, we signed an Option Agreement and a Services Agreement with Monsanto for the use of our proprietary delivery technology and related intellectual property in agriculture. Over the option period, which is expected to be approximately four years, Monsanto will make payments to us to maintain their option rights. In Q1 2014, we received $14.5 million of the $17.5 million near term payments, of which $4.5 million relates to research services and $10.0 million for the use of our technology. In June 2014 and October 2014, we received further payments of $1.5 million each, following the completion of specified program developments. In 2015, we received an additional $1.8 million related to research services. The payments are being recognized as revenue on a straight-line basis over the option period. In Q4 2015, we did not receive further payments from Monsanto for the continuance of research activities under the arrangement. As such, we revised our estimated option period end date to December 31, 2015, resulting in the full release of Monsanto deferred revenue and recognition of $11.8 million in Monsanto revenue in Q4 2015. In March 2016, Monsanto exercised its option to acquire 100% of the outstanding shares of Protiva Agricultural Development Company Inc. (PADCo), for which Monsanto will pay us an exercise fee of $1.0 million in Q1 2016.

In November 2014, we signed a License Agreement and a Development and Supply Agreement with Dicerna for the use of our proprietary delivery technology and related technology intended to develop, manufacture, and commercialize products related to treatment of PH1. In Q4 2014, we received an upfront payment of $2.5 million, which is being recognized over the period over which we provide services to Dicerna, estimated to complete in Q1 2017. We have recognized Dicerna collaboration revenue for inventory manufacture and provision of development services.

Under our licensing and collaboration arrangements with Alnylam and Acuitas, we earn licensing fee revenue from Acuitas as well as further potential development and commercial milestones from Alnylam for the use of our LNP technology.

In 2013, we began to earn royalties from Spectrum with respect to the commercial sales of Marqibo.

Included in "other collaborations and contract revenue" is revenue from a BMS batch formulation agreement. In August 2014, the collaboration expired and both parties' obligations under the agreement ended. Revenue recognized in Q3 2014 relates to the release of the deferred revenue balance of $1.6 million.

Expenses / Expenses consist primarily of clinical and pre-clinical trial expenses, personnel expenses, consulting and third party expenses, reimbursable collaboration expenses, consumables and materials, patent filing expenses, facilities, stock-based compensation and general corporate costs. Impairment of intangible assets is also included i operating expenses.

Our expenses have increased in the past eight quarters due to an increase in our research and development activities as we seek to move more products into the clinic. In Q1 2014, we dosed the first subject in human clinical trials of TKM-Ebola. In Q2 2014, we initiated a Phase I/II Clinical Trial for TKM-PLK1 in patients with HCC. In Q4 2014, we filed a Canadian Clinical Trial Application (CTA) for TKM-HBV and received clearance to conduct a Phase I Clinical Trial, as well as initiated manufacturing of TKM-Ebola-Guinea for emergency use in West Africa. We also incurred research and development expenses related to identifying new targets. In Q1 2015, we initiated a Phase I Clinical Trial for TKM-HBV and incurred significant material costs related to the TKM-Ebola-Guinea contract with the DoD. In addition, we incurred $9.3 million in costs for professional fees related to completing the merger with Arbutus Inc. (formerly OnCore). In Q2 2015, we incurred an incremental $2.9 million in R&D expenses related to our HBV programs acquired through the merger with Arbutus Inc. In Q3 2015, we incurred $5.5 million in incremental R&D expenses primarily related to an increase in HBV and HCC clinical trial expenses due to an increase in patient enrollment and a ramp up in spending on Arbutus Inc. HBV programs. Also in Q3 2015, we recorded an estimated impairment charge of $38.0 million as we discontinued our cyclophilin inhibitor program based on our conclusion that cyclophilins do not play a meaningful role in HBV biology. In Q4, 2015, we continued to incur R&D expense related to our HBV programs.

Other income (losses) / Other income (losses) consist primarily of changes in the fair value of our warrant liability and foreign exchange differences. Other losses increased in Q1 2014 and Q3 2014 due primarily to the increase in fair value of our warrant liability. Increases in our share price from the previous reporting date result in an increase in the fair value of our warrant liability, and vice versa. We expect to see future changes in the fair value of our warrant liability and these changes will largely depend on the change in the Company’s share price, any change in our assumed rate of share price volatility, our assumptions for the expected lives of the warrants and warrant exercises.

In Q3 and Q4 2015, we recorded $11.8 million and $5.5 million respectively in foreign exchange gains largely on our cash and investments due to the appreciation of the U.S. dollar against the Canadian dollar from the previous period.

Income tax benefit / Income tax benefit relates to the decrease in deferred tax liability associated with the impairment charge recorded on acquired intangible assets. In Q3 2015, we recorded $15.2 million of income tax benefit for the estimated impairment of our cyclophilin inhibitor program, OCB-030. In Q4, we recorded a further $1.0 million in income tax benefit due to the revision of fair value of cyclophilins.

Net loss / Fluctuations in our net loss are explained by changes in revenue, expenses, other income (losses) and income tax as discussed above.

Fourth quarter of 2015 / Our Q4 2015 net loss was $5.2 million ($0.10 basic and diluted loss per common share) as compared to a net loss of $6.2 million ($0.27 basic and diluted loss per common share) for Q4 2014.

Revenue was $12.7 million in Q4 2015 as compared to $4.4 million in Q4 2014. The increase was largely due to the recognition of $11.8 million in Monsanto revenue due to our revised estimate of the option period.

Research, development, collaborations and contracts expenses increased to $14.9 million in Q4 2015 as compared to $11.9 million in Q4 2014. In Q4 2015, we incurred incremental expenses related to our HBV programs acquired from Arbutus Inc. . In addition, we recorded $6.0 million in non-cash compensation expense related to the expiry of repurchase rights on shares issued as part of the consideration paid for the merger with Arbutus Inc. (refer to notes to the financial statements), of which $1.5 million has been included as part of research, development, collaborations and contracts expense, and $4.5 million included as part of general and administrative expense.

Other gains in Q4 2015 primarily consists of a $0.5 million decrease in the fair value of our warrant liability, and a foreign exchange gain of $5.5 million on our US dollar funds. In Q4 2015, we recorded a $0.8 million charge related to the increase in the fair value of contingent consideration - see financial statement notes for further details.

RESULTS OF OPERATIONS

The following summarizes the results of our operations for the 2015, 2014, and 2013 fiscal years, in millions:

	2015	2014	2013
Total revenue	**$ 24.9**	$ 15.0	$ 15.5
Operating expenses	**127.2**	48.4	27.6
Loss from operations	**(102.3)**	(33.4)	(12.1)
Net income (loss)	**(61.1)**	(38.8)	(14.1)
Basic income (loss) per share	**(1.34)**	(1.80)	(0.92)
Diluted income (loss) per share	**(1.34)**	(1.80)	(0.92)
Total assets	**712.3**	118.2	71.7
Total liabilities	**164.6**	30.1	12.5
Total non-current liabilities	**154.0**	9.9	—
Deficit	**(267.0)**	(205.9)	(167.0)
Accumulated other comprehensive loss	**(49.8)**	(22.3)	(15.8)
Total stockholders' equity	**$ 547.7**	$ 88.0	$ 59.2

Year ended December 31, 2015 compared to the year ended December 31, 2014

For the fiscal year ended December 31, 2015, our net loss was $61.1 million ($1.34 basic and diluted loss per common share) as compared to a net loss of $38.8 million ($1.80 basic and diluted loss per common share) for 2014.

Revenue / Revenue is summarized in the following table, in millions:

	2015	% of Total	2014	% of Total
Collaborations and contracts				
DoD	**$ 6.8**	**27%**	$ 8.4	56%
Monsanto	**4.7**	**19%**	1.1	7%
BMS	**—**	**—%**	1.7	12%
Dicerna	**1.8**	**7%**	0.5	3%
Other RNAi collaborators	**—**	**—%**	—	—%
Total collaborations and contracts	**13.3**	**53%**	11.7	78%
Monsanto licensing fees and milestone payments	**10.3**	**41%**	2.7	19%
Alnylam milestone payments	**—**	**—%**	0.2	1%
Dicerna licensing fee	**1.1**	**4%**	0.1	1%
Spectrum milestone and royalty payments	**0.2**	**2%**	0.2	1%
Total revenue	**$ 24.9**		$ 15.0	

Revenue contracts are covered in more detail in the overview section of this discussion.

DoD revenue

In July 2015, we announced that Ebola related activities were being suspended and, in Q4 2015, we received formal notification from the DoD terminating the contract, subject to the completion of certain post-termination obligations. We do not expect to record significant revenue from the DoD contract after December 31, 2015.

Monsanto revenue

In January 2014, we received $14.5 million, of which $4.5 million relates to research services and $10.0 million for the use of our technology. In June and October 2014, we received payments of $1.5 million each, following the completion of specified program developments. In May and September 2015, we received $1.05 million and $0.75 million for research services. We are recognizing this revenue on a straight-line basis over the option period. As we did not receive further payments from Monsanto for the continuance of research activities under the arrangement, we revised our estimated option period end date as December 31, 2015, resulting in the full release of Monsanto deferred revenue of $11.8 million, resulting in the recognition of $15.0 million in Monsanto revenue for the year ended December 31, 2015.

Dicerna revenue

In November 2014, we signed a License Agreement and a Development and Supply Agreement with Dicerna for the use of our proprietary delivery technology and related technology intended to develop, manufacture, and commercialize products related to the treatment of PH1. Licensing fee revenue recognized for the year-ended December 31, 2015 relates to the earned portion of the upfront payment of $2.5 million for the use our of technology, which is being recognized over the period over which we provide services to Dicerna, estimated to complete in March 2017. Collaboration revenue for the year-ended December 31, 2015 relates to inventory manufactured for and services provided to Dicerna.

Alnylam and Acuitas revenue

Under our licensing and collaboration arrangements with Alnylam and Acuitas, we earn licensing fee revenue from Acuitas as well as further potential development and commercial milestones from Alnylam for the use of our LNP technology.

BMS revenue

In May 2010 we signed a formulation agreement with BMS under which BMS paid us $3.0 million to make a certain number of LNP formulations over the following four year period. The contract expired in 2014 with no further obligation for either party. Revenue recognized in 2014 relates to the manufactured batches shipped to BMS during the year and the subsequent release of the deferred revenue balance upon the expiration of the contract.

Spectrum revenue

In September 2013, Spectrum announced that they had shipped the first commercial orders of Marqibo. We continue to earn royalties on the sales of Marqibo, which uses a license to our technology.

Expenses / Expenses are summarized in the following table, in millions:

		2015	**% of Total**		2014	% of Total
Research, development, collaborations and contracts	**$**	**51.5**	**40%**	$	38.7	80%
General and administrative		**26.4**	**21%**		8.7	18%
Depreciation		**0.6**	**—%**		0.5	1%
Acquisition costs		**9.7**	**8%**		0.5	1%
Impairment of intangible assets		**39.0**	**31%**	$	—	—%
Total operating expenses	**$**	**127.2**		$	48.4	

Research, development, collaborations and contracts

Research, development, collaborations and contracts expenses consist primarily of clinical and pre-clinical trial expenses, personnel expenses, consulting and third party expenses, consumables and materials, as well as a portion of stock-based compensation and general corporate costs.

R&D expenses increased during 2015 as compared to 2014 as we increased our spending on TKM-HBV for which Phase 1 clinical trials were initiated in 2015. We also incurred incremental costs related to an increase in activities for the preclinical HBV programs we acquired from our merger with Arbutus Inc. In addition, we increased research activities related to our collaboration contracts with the DoD, Monsanto, and Dicerna.

R&D compensation expense increased in 2015 as compared to 2014 due to an increase in the number of employees in support of our expanded portfolio of product candidates, as well as from our merger with Arbutus Inc. In addition, in the year ended December 31, 2015, we incurred a total of $16.7 million of incremental non-cash compensation expense related to the expiry of repurchase rights on shares issued as part of the consideration paid for the merger with Arbutus Inc. (refer to notes to the financial statements), of which $4.2 million has been included as part of research, development, collaborations and contracts expense, and $12.5 million included as part of general and administrative expense.

A significant portion of our research, development, collaborations and contracts expenses are not tracked by project as they benefit multiple projects or our technology platform and because our most-advanced programs are not yet in late-stage clinical development. However, our collaboration agreements contain cost-sharing arrangements pursuant to which certain costs incurred under the project are reimbursed. Costs reimbursed under collaborations typically include certain direct external costs and hourly or full-time equivalent labor rates for the actual time worked on the project. In addition, we have been reimbursed under government contracts for certain allowable costs including direct internal and external costs. As a result, although a significant portion of our research, development, collaborations and contracts expenses are not tracked on a project-by-project basis, we do, however, track direct external costs attributable to, and the actual time our employees worked on, our collaborations and government contracts.

General and administrative

General and administrative expenses increased in 2015 compared to 2014 due largely to an increase in compensation expense linked to our increase in employee base and incremental corporate expenses to support the growth of the Company following the completion of our merger with Arbutus Inc. This includes an incremental non-cash compensation expense we incurred related to the expiry of repurchase rights on shares issued as part of consideration paid for the merger with Arbutus Inc. (see above). Expenses were also higher in 2015 due to legal costs incurred in relation to the May 2015 arbitration hearing against Alnylam.

Acquisition costs

In 2015, we incurred $9.7 million in costs for professional fees related to completing the merger with Arbutus Inc. - see overview. This is a one-time cost specific to the merger with Arbutus Inc., and such costs are only incurred when a business combination occurs.

Impairment of intangible assets

For the year-ended December 31, 2015, we recorded a total impairment charge of $39.0 million based on our decision to discontinue our development of cyclophilin inhibitors. The decision was based on extensive preclinical evaluations of OCB-030, and other competitive cyclophilin inhibitors, following the acquisition of Arbutus Inc., which concluded that cyclophilins do not play a meaningful role in HBV biology.

Other income (losses) / Other income (losses) are summarized in the following table, in millions:

		2015		2014
Interest income	**$**	**0.7**	$	0.9
Foreign exchange gains		**21.8**		4.1
Decrease (increase) in fair value of warrant liability		**3.3**		(10.4)
Increase in fair value of contingent consideration		**(0.8)**		—
Total other income (losses)	**$**	**25.0**	$	(5.4)

Foreign exchange gains

For the year-ended December 31, 2015, we recorded a foreign exchange gain of $21.8 million, which is primarily an unrealized gain related to an appreciation in the value of our U.S. dollar funds from the previous period when converted to our functional currency of Canadian dollars. Cumulative translation adjustments, which result from converting from our functional currency of Canadian dollars to our reporting currency of U.S. dollars, do not impact our net loss calculation and are not included in foreign exchange gains (losses), but are included in cumulative translation adjustment in other comprehensive loss.

Increase in fair value of warrant liability

In conjunction with equity and debt financing transactions in 2011 and 2012, we issued warrants to purchase our common share. We are accounting for the warrants under the authoritative guidance on accounting for derivative financial instruments indexed to, and potentially settled in, a company's own stock, on the understanding that in compliance with applicable securities laws, the registered warrants require the issuance of registered securities upon exercise and do not sufficiently preclude an implied right to net cash settlement. At each balance sheet date the warrants are revalued using the Black-Scholes model and the change in value is recorded in the consolidated statement of operations and comprehensive income (loss).

Generally, a decrease in our share price from the previous reporting date results in a decrease in the fair value of our warrant liability and vice versa.

We expect to see future changes in the fair value of our warrant liability and these changes will largely depend on the change in the Company's share price, and, to a lesser extent, any change in our assumed rate of share price volatility, our assumptions for the expected lives of the warrants and warrant exercises.

Increase in fair value of contingent consideration

The contingent consideration represents the estimated regulatory, development and sales milestone payments payable to the previous Enantigen shareholders. Enantigen was acquired by Arbutus Inc. in 2014. As at the acquisition date of Arbutus Inc., the contingent consideration had an estimated fair value of approximately $6,727,000. Contingent consideration is a financial liability, and we determine its fair value at each reporting period with any changes in fair value from the previous reporting period recorded in the statement of operations and comprehensive loss. For the period ended December 31, 2015, we performed an evaluation of the fair value of the contingent consideration using the probability weighted assessment of likelihood of milestone payments as described above and determined the fair value of the contingent consideration has increased by $770,000 to $7,497,000. The increase in fair value has been recorded in other losses in the statement of operations and comprehensive loss for the year-ended December 31, 2015.

Income tax benefit

For the year-ended December 31, 2015, we recorded an income tax benefit of $16.2 million due to the decrease in deferred tax liability resulting from the impairment charge we recorded for the discontinuance of our cyclophilin inhibitor program.

Year ended December 31, 2014 compared to the year ended December 31, 2013

For the fiscal year ended December 31, 2014, our net loss was $38.8 million ($1.80 basic and diluted loss per common share) as compared to a net loss of $14.1 million ($0.92 basic and diluted loss per common share) for 2013.

Revenue / Revenue is summarized in the following table, in millions:

		2014	**% of Total**		2013	% of Total
Collaborations and contracts						
DoD	**$**	**8.4**	**56%**	$	9.8	63%
Monsanto		**1.1**	**7%**		—	—%
BMS		**1.7**	**11%**		0.5	3%
Dicerna		**0.5**	**3%**		—	—%
Other RNAi collaborators		**—**	**—%**		0.1	1%
Total collaborations and contracts		**11.7**	**78%**		10.4	68%
Monsanto licensing fee		**2.7**	**18%**		—	—%
Alnylam milestone payments		**0.2**	**1%**		5.0	32%
Dicerna licensing fee		**—**	**2%**		—	—%
Spectrum milestone and royalty payments		**0.2**	**1%**		—	—%
Total revenue	**$**	**15.0**		$	15.5	

DoD revenue

In April 2014, we signed a contract modification with the DoD to increase the stage one targeted funding by a further $2.1 million to $43.8 million. The additional funding is to compensate us for unrecovered costs incurred related to the temporary stop-work period that occurred in 2012 and to provide additional overhead funding should it be required. In October 2014, the DoD exercised an option valued at $7.0 million, awarded to us to manufacture TKM-Ebola-Guinea targeting the Ebola-Guinea strain responsible for the outbreak in West Africa.
Under the contract, we are being reimbursed for costs incurred, including an allocation of overheads, and we are being paid an incentive fee.

DoD revenues and related contract expenses were lower in 2014 as compared to 2013 as we were nearing the end of stage one of the contract and most activities for this stage had been completed. The reduction in stage one revenue in 2014 was offset by the addition of the $7.0 million award for the manufacture of TKM-Ebola-Guinea towards the end of 2014.

Monsanto revenue

On January 13, 2014, we signed an Option Agreement and a Services Agreement (together, the “Agreements”) with Monsanto. Under the Agreements, Monsanto has an option to acquire a license to use our proprietary delivery technology and related intellectual property for use in agriculture. Over the option period, which is expected to be approximately four years, we will provide lipid formulations for Monsanto’s research and development activities, and Monsanto will make certain payments to us to maintain their option rights (see Overview for further discussion).

In January 2014, we received $14.5 million, of which $4.5 million relates to research services and $10.0 million for the use of our technology. In June and September 2014, we received payments of $1.5 million each, following the completion of specified program developments. We are recognizing this revenue on a straight-line basis over the option period. For the year-ended December 31, 2014, we recorded an aggregate of $3.8 million in revenue for the use of our technology and for research activities.

Alnylam and Acuitas revenue

On November 12, 2012, we entered into a new licensing agreement with Alnylam that replaces all earlier licensing, cross-licensing, collaboration, and manufacturing agreements. We also entered into a separate cross license agreement with Acuitas, which includes milestones and royalty payments, and Acuitas has agreed not to compete in the RNAi field for five years.

In November 2013, Alnylam initiated a Phase III trial with ALN-TTR02, also known as patisiran, and an associated $5.0 million development milestone was paid to us in December 2013. In March 2014, we earned a $0.15 million milestone payment from Acuitas following their receipt of a milestone from Alnylam with the initiation of the ALN-TTR02 Phase III trial.

On June 21, 2013, we transferred manufacturing process technology to Ascletis to enable them to produce ALN-VSP, a product candidate licensed to them by Alnylam. We believe that under our licensing agreement with Alnylam, the technology transfer to Ascletis triggers a $5.0 million milestone obligation from Alnylam to us. However, Alnylam has demanded a declaration that we have not yet met its milestone obligations. We dispute Alnylam’s position. To remedy this dispute, we have commenced arbitration proceedings with Alnylam, as provided for under the agreement. The hearing for this arbitration occurred in May, 2015. We have not recorded any revenue in respect of this milestone.

BMS revenue

In May 2010 we signed a formulation agreement with BMS under which BMS paid us $3.0 million to make a certain number of LNP formulations over the following four year period. Revenue recognized in 2012 and 2013 relates to LNP batches the company produced in proportion to the maximum LNP formulations that may be required under the contract. As at December 31, 2013, we intended to offer BMS an extension to the agreement’s end date from May 10, 2014 to December 31, 2014. Extending the agreement would have given BMS more time to order LNP batches. The offer extension resulted in a cumulative revenue adjustment recorded for the year-ended December 31, 2013. In August 2014, we received notification from BMS that the extension would not occur. Revenue recognized for the year-ended December 31, 2014 relates to the batches shipped to BMS during the period and the release of any remaining deferred revenue balance now that the agreement has expired and no further obligation with either party.

Dicerna revenue

In November 2014, we signed a License Agreement and a Development and Supply Agreement with Dicerna for the use of our proprietary delivery technology and related technology intended to develop, manufacture, and commercialize products related to treatment of PH1. Revenue recognized for the year-ended December 31, 2014 relates to the earned portion of the upfront payment of $2.5 million for the use our of technology, which is being recognized over the period over which we provide services to Dicerna, estimated to complete in March 2017.

Spectrum revenue

In September 2013, Spectrum announced that they had shipped the first commercial orders of Marqibo. For the year-ended December 31, 2014, we earned royalties of $0.2 million on the sales of Marqibo, which uses a license to our technology.

Expenses / Expenses are summarized in the following table, in millions:

		2014	**% of Total**		2013	% of Total
Research, development, collaborations and contracts	**$**	**38.7**	**80%**	$	21.5	78%
General and administrative		**8.7**	**18%**		5.5	20%
Depreciation		**0.5**	**1%**		0.6	2%
Acquisition costs		**0.5**	**1%**		—	—%
Total operating expenses	**$**	**48.4**		$	27.6	

Research, development, collaborations and contracts

Research, development, collaborations and contracts expenses consist primarily of clinical and pre-clinical trial expenses, personnel expenses, consulting and third party expenses, consumables and materials, as well as a portion of stock-based compensation and general corporate costs.

In 2013, research and development costs were primarily related to our internal earlier-stage research programs, moving TKM-PLK1 into Phase I/II clinical trial, and new targets identification: TKKM-HBV and TKM-ALDH2. In 2014, our research and development costs increased as we incurred incremental costs related to the progress of moving additional products into the clinic: the initiation of Phase I /II clinical trials in patients with HCC resulting in the expansion in the number of clinical trials sites and patients accrual for TKM-PLK1, significant research and preclinical spending on TKM-HBV to file a CTA to move into the clinic, as well as an increase in manufacturing activities under the DoD contract in response to the Ebola outbreak in West Africa. In addition, we incurred incremental research and development spending for new partner collaborations we entered into in 2014, as well as spending on new targets identification - see Overview for further details.

Compensation expenses increased in 2014 as compared to 2013. There was an increase in workforce of 38 employees in 2014 to support our expanded portfolio of product candidates. In addition, R&D stock-based compensation expense increased significantly due, in part, to the increase in our share price.

In 2014, we also incurred $0.5 million in acquisition costs related to the acquisition of Arbutus Inc. (formerly OnCore) that completed in March 2015 - see overview.

A significant portion of our research, development, collaborations and contracts expenses are not tracked by project as they benefit multiple projects or our technology platform and because our most-advanced programs are not yet in late-stage clinical development. However, our collaboration agreements contain cost-sharing arrangements pursuant to which certain costs incurred under the project are reimbursed. Costs reimbursed under collaborations typically include certain direct external costs and hourly or full-time equivalent labor rates for the actual time worked on the project. In addition, we have been reimbursed under government contracts for certain allowable costs including direct internal and external costs. As a result, although a significant portion of our research, development, collaborations and contracts expenses are not tracked on a project-by-project basis, we do, however, track direct external costs attributable to, and the actual time our employees worked on, our collaborations and government contracts.

General and administrative

General and administrative expenses increased in 2014 due largely to an increase in compensation expenses. Our employee base grew in support of our expanding pipeline and we had a significant increase in stock-based compensation expense due, in part, to the increase in our share price. We incurred incremental spending on legal fees and consultants related to new compliance requirements linked to the growth of the Company.

Other income (losses) / Other income (losses) are summarized in the following table, in millions:

		2014		2013
Interest income	**$**	**0.9**	$	0.5
Foreign exchange gains		**4.1**		1.1
Increase in fair value of warrant liability		**(10.4)**		(3.5)
Total other losses	**$**	**(5.4)**	$	(1.9)

Increase in fair value of warrant liability

In conjunction with equity and debt financing transactions in 2011 and 2012, we issued warrants to purchase our common share. We are accounting for the warrants under the authoritative guidance on accounting for derivative financial instruments indexed to, and potentially settled in, a company's own stock, on the understanding that in compliance with applicable securities laws, the registered warrants require the issuance of registered securities upon exercise and do not sufficiently preclude an implied right to net cash settlement. At each balance sheet date the warrants are revalued using the Black-Scholes model and the change in value is recorded in the consolidated statement of operations and comprehensive income (loss).

The aggregate increase in value of our common share purchase warrants outstanding at December 31, 2014 was $10.4 million as compared to an increase in the value of common share purchase warrants outstanding at the end of 2013 of $3.5 million. The increases are a result of increases in the Company's share price from the previous reporting dates.

LIQUIDITY AND CAPITAL RESOURCES

The following table summarizes our cash flow activities for the periods indicated, in millions:

	Year ended December 31		
	2015	2014	2013
Net loss for the year	**$ (61.1)**	$ (38.8)	$ (14.1)
Adjustments to reconcile net loss to net cash used in operating activities	**21.0**	9.9	5.0
Changes in operating assets and liabilities	**(14.6)**	16.5	2.3
Net cash used in operating activities	**(54.8)**	(12.4)	(6.7)
Net cash provided by (used in) investing activities	**7.7**	(43.0)	(0.7)
Net cash provided by financing activities	**143.9**	60.7	32.7
Effect of foreign exchange rate changes on cash & cash equivalents	**(2.2)**	(1.8)	(3.6)
Net increase in cash and cash equivalents	**94.6**	3.5	21.7
Cash and cash equivalents, beginning of year	**72.2**	68.7	47.0
Cash and cash equivalents, end of year	**$ 166.8**	$ 72.2	$ 68.7

Since our incorporation, we have financed our operations through the sales of shares, units, debt, revenues from research and development collaborations and licenses with corporate partners, interest income on funds available for investment, and government contracts, grants and tax credits.

At December 31, 2015, we had cash and cash equivalents of $166.8 million and short and long-term investments of $24.6 million, totaling $191.4 million as compared to cash, cash equivalents, and short-term investments of $112.2 million at December 31, 2014.

Operating activities used $54.8 million in cash in 2015 as compared to $12.4 million used in 2014 and $6.7 million used in 2013. The increase in cash used from operating activities was primarily related to the expansion of our research and development as a result of both organic growth and our acquisition of Arbutus Inc. in March 2015. Non-cash items to reconcile net loss used by operating activities include impairment of intangible assets of $39.0 million, with an offsetting income tax benefit of $16.2 million.

Investing activities provided cash of $7.7 million compared to $43.0 million of cash used in 2014 and $0.7 million used in 2013. Cash provided in 2015 was due to settlement of guaranteed investment certificates during the year.

On October 22, 2013, we completed an underwritten public offering of 3,750,000 common shares, at a price of $8.00 per share, representing gross proceeds of $30.0 million. On November 1, 2013, the offering's underwriter completed the exercise of its over-allotment option to purchase a further 562,500 shares at $8.00 bringing the aggregate financing gross proceeds to $34.5 million. The cost of the financing, including commissions and professional fees, was $2.5 million, resulting in net proceeds of $32.0 million.

On March 18, 2014, we completed an underwritten public offering of 2,125,000 common shares, at a price of $28.50 per share, representing gross proceeds of $60.5 million. We are using these proceeds to develop and advance product candidates through clinical trials, as well as for working capital and general corporate purposes.

On March 25, 2015, we completed an underwritten public offering of 7,500,000 common shares, at a price of $20.25 per share, representing gross proceeds of $151.9 million. The cost of financing, including commissions and professional fees, was approximately $9.7 million, which gave us net proceeds of $142.2 million. We plan to use these proceeds to develop and advance product candidates through clinical trials, as well as for working capital and general corporate purposes.

Cash requirements / At December 31, 2015 we held $166.8 million in cash and cash equivalents and $24.6 million in short- and long-term investments. On March 25, 2015, we raised net proceeds of $142.2 million from a public offering. We believe we have sufficient cash resources for at least the next 12 months. In the future, substantial additional funds will be required to continue with the active development of our pipeline products and technologies. In particular, our funding needs may vary depending on a number of factors including:

- the need for additional capital to fund future business development programs;
- revenues earned form our current collaborative partnership and licensing agreement with Dicerna;
  revenues earned from our legacy collaborative partnerships and licensing agreements, including milestone payments from Alnylam and royalties from sales of Marqibo from Spectrum;
- the extent to which we continue the development of our product candidates, add new product candidates to our pipeline, or form collaborative relationships to advance our products;
- our decisions to in-license or acquire additional products or technology for development, in particular for our HBV programs;
- our ability to attract and retain corporate partners, and their effectiveness in carrying out the development and ultimate commercialization of our product candidates;
- whether batches of drugs that we manufacture fail to meet specifications resulting in delays and investigational and remanufacturing costs;
- the decisions, and the timing of decisions, made by health regulatory agencies regarding our technology and products;
- competing technological and market developments; and
- costs associated with prosecuting and enforcing our patent claims and other intellectual property rights, including litigation and arbitration arising in the course of our business activities.

We will seek to obtain funding to maintain and advance our business from a variety of sources including public or private equity or debt financing, collaborative arrangements with pharmaceutical companies and government grants and contracts. There can be no assurance that funding will be available at all or on acceptable terms to permit further development of our products especially in light of the current difficult climate for investment in early stage biotechnology companies.

If adequate funding is not available, we may be required to delay, reduce or eliminate one or more of our research or development programs or reduce expenses associated with non-core activities. We may need to obtain funds through arrangements with collaborators or others that may require us to relinquish most or all of our rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise seek if we were better funded. Insufficient financing may also mean failing to prosecute our patents or relinquishing rights to some of our technologies that we would otherwise develop or commercialize.

Material commitments for capital expenditures / As at the date of this discussion we do not have any material commitments for capital expenditures.

OFF-BALANCE SHEET ARRANGEMENTS

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

CONTRACTUAL OBLIGATIONS

Facility lease / On June 23, 2014, we signed an agreement to renew the lease for our Burnaby office and lab facility. The lease term is for five years, commencing August 1, 2014 with three additional renewal terms of five years each. On March 24, 2015, our U.S. office signed a one year lease agreement for office and lab facilities. On October 1, 2015, we signed an amendment and extended the lease to December 31, 2016. We have the option to renew for another term of one year.

Product development partnership with the Canadian Government / We entered into a Technology Partnerships Canada (TPC) agreement with the Canadian Federal Government on November 12, 1999. Under this agreement, TPC agreed to fund 27% of our costs incurred prior to March 31, 2004, in the development of certain oligonucleotide product candidates up to a maximum contribution from TPC of $7.2 million (C$9.3 million). As at December 31, 2015, a cumulative contribution of $2.7 million (C$3.7 million) had been received and we do not expect any further funding under this agreement. In return for the funding provided by TPC, we agreed to pay royalties on the share of future licensing and product revenue, if any that is received by us on certain non-siRNA oligonucleotide product candidates covered by the funding under the agreement. These royalties are payable until a certain cumulative payment amount is achieved or until a pre-specified date. In addition, until a cumulative amount equal to the funding actually received under the agreement has been paid to TPC, we agreed to pay a 2.5% royalty on any royalties we receive for Marqibo.

In September 2013, we began to earn royalties on Marqibo and the cumulative amount paid or accrued up to December 31, 2015 was $0.01 million resulting in the contingent amount due to TPC being $2.7 million (C$3.7 million).

License agreement with Marina Biotech, Inc. (“Marina”) / On November 29, 2012, we announced a worldwide, non-exclusive license to a novel RNAi payload technology called Unlocked Nucleobase Analog (“UNA”) from Marina for the development of RNAi therapeutics.

UNA technology can be used in the development of RNAi therapeutics, which treat disease by silencing specific disease causing genes. UNAs can be incorporated into RNAi drugs and have the potential to improve them by increasing their stability and reducing off-target effects.

Under the license agreement we will make milestone payments of up to $3.3 million, plus royalties, on each product that we develop that uses Marina’s UNA technology. The upfront fee and license payment were expensed to research, development, collaborations and contracts expense.

Effective August 9, 2013, Marina’s UNA technology was acquired by Arcturus Therapeutics, Inc. (“Arcturus”) and the UNA license agreement between us and Marina was assigned to Arcturus. The terms of the license are otherwise unchanged.

Contingent consideration from OnCore acquisition of Enantigen and License Agreements between Enantigen and Blumberg and Drexel

In October 2014, OnCore acquired all of the outstanding shares of Enantigen pursuant to a stock purchase agreement. Through this transaction, OnCore acquired a HBV surface antigen secretion inhibitor program and a capsid assembly inhibitor program, each of which are now assets of Arbutus, following the Company’s merger with Arbutus Inc. - see notes to the financial statements.

Under the stock purchase agreement, OnCore agreed to pay up to a total of $21.0 million to Enantigen’s selling stockholders upon the achievement of certain triggering events related to Enantigen’s two programs in pre-clinical development related to HBV therapies. The first triggering event is the enrollment of first patient in Phase 1b clinical trial in HBV patients, which we do not expect to occur in the next twelve-month period.

The regulatory, development and sales milestone payments have an estimated fair value of approximately $6.7 million as at the date of acquisition of Arbutus Inc., and have been treated as contingent consideration payable in the purchase price allocation.
Contingent consideration is considered as a financial liability, and measured at its fair value at each reporting period with any changes in fair value from the previous reporting period recorded in the statement of operations and comprehensive loss. For the period ended December 31, 2015, we performed an evaluation of the fair value of the contingent consideration using the probability weighted assessment of likelihood of milestone payments as described above. We determined the fair value of the contingent consideration has increased by $0.8 million to $7.5 million and the increase in fair value has been recorded in other losses in the statement of operations and comprehensive loss for the year-ended December 31, 2015.

Drexel and Blumberg

In February 2014, OnCore entered into a license agreement with Blumberg and Drexel that granted an exclusive, worldwide, sub-licensable license to three different compound series: cccDNA inhibitors, capsid assembly inhibitors and HCC inhibitors.

In partial consideration for this license, OnCore paid a license initiation fee of $0.2 million and issued warrants to Blumberg and Drexel. Under this license agreement, OnCore also agreed to pay up to $3.5 million in development and regulatory milestones per licensed compound series, up to $92.5 million in sales performance milestones per licensed product, and royalties in the mid-single digits based upon the proportionate net sales of licensed products in any commercialized combination. We are obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from the sub-licensees, subject to customary exclusions.

In November 2014, OnCore entered into an additional license agreement with Blumberg and Drexel pursuant to which it received an exclusive, worldwide, sub-licensable license under specified patents and know-how controlled by Blumberg and Drexel covering epigenetic modifiers of cccDNA and STING agonists. In consideration for these exclusive licenses, OnCore made an upfront payment of $0.1 million. Under this agreement, we will be required to pay up to $1.0 million for each licensed product upon the achievement of a specified regulatory milestone and a low single digit royalty, based upon the proportionate net sales of compounds covered by this intellectual property in any commercialized combination. We are also obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from its sub-licensees, subject to exclusions.

Research Collaboration and Funding Agreement with Blumberg

In October 2014, OnCore entered into a research collaboration and funding agreement with Blumberg under which we will provide $1.0 million per year of research funding for three years, renewable at our option for an additional three years, for Blumberg to conduct research projects in HBV and liver cancer pursuant to a research plan to be agreed upon by the parties. Blumberg has exclusivity obligations to Arbutus with respect to HBV research funded under the agreement. In addition, Arbutus has the right to match any third party offer to fund HBV research that falls outside the scope of the research being funded under the agreement. Blumberg has granted Arbutus the right to obtain an exclusive, royalty bearing, worldwide license to any intellectual property generated by any funded research project. If we elect to exercise its right to obtain such a license, we will have a specified period of time to negotiate and enter into a mutually agreeable license agreement with Blumberg. This license agreement will include the following pre negotiated upfront, milestone and royalty payments: an upfront payment in the amount of $0.1 million; up to $8.1 million upon the achievement of specified development and regulatory milestones; up to $92.5 million upon the achievement of specified commercialization milestones; and royalties at a low single to mid-single digit rates based upon the proportionate net sales of licensed products from any commercialized combination.

NeuroVive Pharmaceutical AB (“NeuroVive”)

In September 2014, OnCore entered into a license agreement with NeuroVive that granted them an exclusive, worldwide, sub-licensable license to develop, manufacture and commercialize, for the treatment of HBV, oral dosage form sanglifehrin based cyclophilin inhibitors (including OCB-030). Under this license agreement, Arbutus has been granted a non-exclusive, royalty free right and license and right of reference to NeuroVive’s relevant regulatory approvals and filings for the sole purpose of developing, manufacturing and commercializing licensed products for the treatment of HBV. Under this license agreement, Arbutus has (1) an option to expand its exclusive license to include treatment of viral diseases other than HBV and (2) an option, exercisable upon specified conditions, to expand its exclusive license to include development, manufacture and commercialization of non-oral variations of licensed products for treatment of viral diseases other than HBV. NeuroVive retains all rights with respect to development, manufacture and commercialization of licensed products and non-oral variations of licensed products for all indications (other than HBV) for which we have not exercised our option.

In partial consideration for this license, OnCore paid NeuroVive a license fee of $1.0 million. As described in the notes to our financial statements, Arbutus Inc. became our wholly owned subsidiary by way of a Merger Agreement, which does not trigger any milestone payments. We have conducted significant research and analysis on the NeuroVive Product, OCB-030. Based on this research and analysis, we have decided to discontinue the OCB-030 development program. Otherwise, the license agreement and ongoing relationship with NeuroVive remains in full effect.

Cytos Biotechnology Ltd ("Cytos")

On December 30, 2014, OnCore entered into an exclusive, worldwide, sub-licensable (subject to certain restrictions with respect to licensed viral infections other than hepatitis) license to 6 different series of compounds. The licensed compounds are Qbeta-derived virus-like particles that encapsulate TLR9, TLR7 or RIG-I agonists and may or may not be conjugated with antigens from the hepatitis virus or other licensed viruses. Arbutus has an option to expand this license to include additional viral infections other than influenza and Cytos will retain all rights for influenza, all non-viral infections, and all viral infections (other than hepatitis) for which it has not exercised its option.

In partial consideration for this license, we are obligated to pay Cytos up to a total of $67.0 million for each of the 6 licensed compound series upon the achievement of specified development and regulatory milestones; for hepatitis and each additional licensed viral infection, up to a total of $110.0 million upon the achievement of specified sales performance milestones; and tiered royalty payments in the high-single to low-double digits, based upon the proportionate net sales of licensed products in any commercialized combination.

The following table summarizes our contractual obligations as at December 31, 2015:

(in millions)	Payments Due by Period				
	Total	**Less than 1 year**	**1 – 3 years**	**3 – 5 years**	**More than 5 years**
Contractual Obligations					
Facility lease	$ 3.6	$ 1.2	$ 2.4	$ —	$ —

We in-license technology from a number of sources. Pursuant to these in-license agreements, we will be required to make additional payments if and when we achieve specified development, regulatory, financial and commercialization milestones. To the extent we are unable to reasonably predict the likelihood, timing or amount of such payments; we have excluded them from the table above. Our technology in-licenses are further described in the Overview section of this discussion.

We also have contracts and collaborative arrangements that require us to undertake certain research and development work as further explained elsewhere in this discussion. It is not practicable to estimate the amount of these obligations.

IMPACT OF INFLATION

Inflation has not had a material impact on our operations.

RELATED PARTY TRANSACTIONS

We have not entered into any related party transactions in the periods covered by this discussion.

OUTSTANDING SHARE DATA

At February 29, 2016, we had 54,625,703 common shares issued and outstanding, outstanding options to purchase an additional 2,432,414 common shares and outstanding warrants to purchase an additional 379,500 common shares.

RECENT ACCOUNTING PRONOUNCEMENTS

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (FASB) or other standard setting bodies that we adopt as of the specified effective date. Unless otherwise discussed, we believe that the impact of recently issued standards that are not yet effective will not have a material impact on our financial position or results of operations upon adoption.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842).: Recognition and Measurement of Financial Assets and Financial Liabilities. The update supersedes Topic 840, Leases and requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. Topic 842 retains a distinction between finance leases and operating leases, with cash payments from operating leases classified within operating activities in the statement of cash flows. The amendments in this update are effective for fiscal years beginning after December 15, 2018 for public business entities, which for the Company means January 1, 2019. We do not plan to early adopt this update. The extent of the impact of this adoption has not yet been determined.

In September 2015, the FASB issued ASU 2015-16, Business Combinations (Topic 805): Simplifying the Accounting for Measurement-Period Adjustments. The update eliminates the requirement to retrospectively adjust the provisional amounts recognized at the acquisition date with a corresponding adjustment to goodwill during the measurement period when new information is obtained about the facts and circumstances that existed as of the acquisition date, that if known, would have affected the measurement of the amounts initially recognized or would have resulted in the recognition of additional assets or liabilities. The amendments in this update are effective for fiscal years beginning after December 15, 2015, which for the Company means January 1, 2016, and should be applied prospectively to adjustments to provisional amounts that occur after the effective date of this update. Early application is permitted for financial statements that have not been issued. We have adopted this update and applied it to the acquisition of Arbutus Inc.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers (ASC 606). The standard is intended to clarify the principles for recognizing revenue and to develop a common revenue standard for U.S. GAAP and IFRS by creating a new Topic 606, Revenue from Contracts with Customers. This guidance supersedes the revenue recognition requirements in ASC 605, Revenue Recognition, and supersedes some cost guidance included in Subtopic 605-35, Revenue Recognition - Construction-Type and Production-Type Contracts. The core principle of the accounting standard is that an entity

recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those good or services. The amendments should be applied by either (1) retrospectively to each prior reporting period presented; or (2) retrospectively with the cumulative effect of initially applying this ASU recognized at the date of initial application. In August 2015, the FASB issued ASU 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date to defer the effective date of Update 2014-09 for all entities by one year. The new guidance would be effective for fiscal years beginning after December 15, 2017, which for us means January 1, 2018. Entities are permitted to adopt in accordance with the original effective date if they choose. We have not yet determined the extent of the impact of adoption.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements - Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern. The update is intended to provide guidance in GAAP about management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. Under amendments to GAAP, the assessment period is within one year after the date that the financial statements are issued (or available to be issued). The amendments are effective for the annual period ending after December 15, 2016, which for us means January 1, 2017, and for annual periods and interim periods thereafter. Early application is permitted. We do not plan to early adopt this update. The extent of the impact of this adoption has not yet been determined.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Interest rate risk

We are exposed to market risk related to changes in interest rates, which could adversely affect the value of our interest rate sensitive assets and liabilities. We do not hold any instruments for trading purposes and investment decisions are governed by a Board approved Investment Policy. As at December 31, 2015, we had cash and cash equivalents of $166.8 million and short- and long-term investments of $24.6 million, as compared to $72.2 million of cash and cash equivalents and $40.0 million of short-term investments as at December 31, 2014. We invest our cash reserves in high interest saving accounts and guaranteed investment certificates and term deposits with varying terms to maturity (not exceeding two years) issued by major Canadian banks, selected with regard to the expected timing of expenditures for continuing operations and prevailing interest rates. The fair value of our cash investments as at December 31, 2015 equal to the face value of those investments and the value reported in our balance sheet. Due to the relatively short-term nature of the investments that we hold, we do not believe that the results of operations or cash flows would be affected to any significant degree by a sudden change in market interest rates relative to our investment portfolio. Our debt instrument sensitive to changes in interest rate is our warrant liability with its fair value determined using the Black-Scholes model, which uses interest rate as an input. We have estimated the effects on our warrant liability based on a one percentage point hypothetical adverse change in interest rates as of December 31, 2015 and 2014. We determined the hypothetical fair value using the same Black-Scholes model, and determined that an increase in the interest rates of one percentage point would have had an adverse change to our warrant liability of $0.01 million and $0.01 million as of December 31, 2015 and 2014, respectively.

Foreign currency exchange risk

In addition, we are exposed to market risk related to changes in foreign currency exchange rates. We have not entered into any agreements or purchased any instruments to hedge possible currency risks at this time. We manage our US dollar exchange rate risk by, whenever possible, using cash received from US dollar revenues and financing to pay US dollar expenses. Given our increasing level of US dollar expenses, our policy is to maintain US and Canadian dollar cash and investment balances based on long term forecasts of currency needs thereby creating a natural currency hedge. As of December 31, 2015 and 2014, an adverse change of one percentage point in the foreign currency exchange rates of Canadian to US dollars would have resulted in an incremental loss of $2.1 million and $0.7 million, respectively. We recorded foreign exchange gains of $21.8 million and $4.1 million for the fiscal years ended December 31, 2015 and 2014, respectively.

On January 1, 2016, our functional currency changed from the Canadian dollar to the U.S. dollar based on our analysis of changes in the primary economic environment in which we operate. We will continue to incur substantial expenses and hold cash and investment balances in Canadian dollars, and as such, will remain subject to risks associated with foreign currency fluctuations.

Item 8. Financial Statements and Supplementary Data

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Arbutus Biopharma Corporation

We have audited the accompanying consolidated balance sheets of Arbutus Biopharma Corporation as of December 31, 2015 and December 31, 2014 and the related consolidated statements of operations and comprehensive loss, stockholders' equity and cash flows each of the years in the three-year period ended December 31, 2015. These consolidated financial statements are the responsibility of Arbutus Biopharma Corporation's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Arbutus Biopharma Corporation as of December 31, 2015 and December 31, 2014, and its consolidated results of operations and its consolidated cash flows each of the years in the three-year period ended December 31, 2015 in conformity with US generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Arbutus Biopharma Corporation's internal control over financial reporting as of December 31, 2015, based on the criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated March 9, 2016 expressed an unqualified opinion on the effectiveness of Arbutus Biopharma Corporation's internal control over financial reporting.

/s/ KPMG LLP
Chartered Accountants
March 9, 2016

Vancouver, Canada

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of Arbutus Biopharma Corporation

We have audited Arbutus Biopharma Corporation's internal control over financial reporting as of December 31, 2015, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Arbutus Biopharma Corporation's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Annual Report on Internal Control over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Arbutus Biopharma Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) .

We also have audited, in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Arbutus Biopharma Corporation as of December 31, 2015 and 2014, and the related consolidated statements of operations and comprehensive loss, stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2015, and our report dated March 9, 2016 expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP
Chartered Accountants
March 9, 2016
Vancouver, Canada

ARBUTUS BIOPHARMA CORPORATION

(formerly Tekmira Pharmaceuticals Corporation)

Consolidated Balance Sheets

(Expressed in thousands of US Dollars, except share and per share amounts)

(Prepared in accordance with US GAAP)

		December 31, 2015		December 31, 2014
Assets				
Current assets:				
Cash and cash equivalents	**$**	**166,779**	$	72,187
Short-term investments (note 2)		**14,525**		39,974
Accounts receivable		**1,008**		1,903
Accrued revenue		**128**		538
Investment tax credits receivable		**246**		86
Prepaid expenses and other assets (note 7(a))		**1,196**		1,730
Total current assets		**183,882**		116,418
Property and equipment (note 5)		**12,912**		12,959
Less accumulated depreciation (note 5)		**(9,729)**		(11,199)
Property and equipment, net of accumulated depreciation (note 5)		**3,183**		1,760
Long-term investments (note 2)		**10,070**		—
Intangible assets (note 3)		**352,642**		—
Goodwill (note 3)		**162,514**		—
Total assets	**$**	**712,291**	$	118,178
Liabilities and stockholders' equity				
Current liabilities:				
Accounts payable and accrued liabilities (note 11)	**$**	**8,827**	$	9,328
Deferred revenue (note 4)		**868**		5,779
Warrants (notes 2 and 6)		**883**		5,099
Total current liabilities		**10,578**		20,206
Deferred revenue, net of current portion (note 4)		**213**		9,937
Contingent consideration (note 9)		**7,497**		—
Deferred tax liability (notes 3 and 8)		**146,324**		—
Total liabilities		**164,612**		30,143
Stockholders’ equity:				
Common shares (note 6)				
Authorized - unlimited number with no par value				
Issued and outstanding: 54,570,691 (December 31, 2014 - 22,438,169)		**834,240**		290,004
Additional paid-in capital		**30,206**		26,208
Deficit		**(266,985)**		(205,864)
Accumulated other comprehensive loss		**(49,782)**		(22,313)
Total stockholders' equity		**547,679**		88,035
Total liabilities and stockholders' equity	**$**	**712,291**	$	118,178

Nature of business and future operations (note 1)

Contingencies and commitments (note 9)

Subsequent event (note 13)

See accompanying notes to the consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

(formerly Tekmira Pharmaceuticals Corporation)

Consolidated Statements of Operations and Comprehensive Loss

(Expressed in thousands of US Dollars, except share and per share amounts)

(Prepared in accordance with US GAAP)

	Year ended December 31,		
	2015	2014	2013
Revenue (note 4)			
Collaborations and contracts	**$ 13,309**	$ 11,738	$ 10,425
Licensing fees, milestone and royalty payments	**11,564**	3,215	5,040
Total revenue	**24,873**	14,953	15,465
Expenses			
Research, development, collaborations and contracts	**51,505**	38,713	21,458
General and administrative	**26,438**	8,683	5,546
Depreciation of property and equipment	**589**	529	613
Acquisition costs (note 3)	**9,656**	462	—
Impairment of intangible assets (note 3)	**39,007**	—	—
Total expenses	**127,195**	48,387	27,617
Loss from operations	**(102,322)**	(33,434)	(12,152)
Other income (losses)			
Interest income	**674**	853	540
Foreign exchange gains	**21,771**	4,127	1,079
Decrease (increase) in fair value of warrant liability (note 2)	**3,341**	(10,383)	(3,530)
Increase in fair value of contingent consideration (note 2)	**(770)**	—	—
Total other income (losses)	**$ 25,016**	$ (5,403)	$ (1,911)
Loss before income taxes	**(77,306)**	(38,837)	(14,063)
Deferred income tax recovery (notes 3 and 8)	**16,185**	—	—
Net loss	**$ (61,121)**	$ (38,837)	$ (14,063)
Loss per common share			
Basic	**$ (1.34)**	$ (1.80)	$ (0.92)
Diluted	**$ (1.34)**	$ (1.80)	$ (0.92)
Weighted average number of common shares			
Basic	**45,462,324**	21,603,136	15,302,680
Diluted	**45,462,324**	21,603,136	15,302,680
Other Comprehensive loss			
Cumulative translation adjustment	**(27,469)**	(6,489)	(3,135)
Comprehensive loss	**$ (88,590)**	$ (45,326)	$ (17,198)

See accompanying notes to the consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

(formerly Tekmira Pharmaceuticals Corporation)

Consolidated Statement of Stockholders' Equity

(Expressed in thousands of US Dollars, except share and per share amounts)

(Prepared in accordance with US GAAP)

	Number of shares	Share capital	Additional paid-in capital	Deficit	Accumulated other comprehensive loss	Total stockholders' equity
Balance, December 31, 2012	14,305,356	$ 181,786	$ 24,786	$ (152,964)	$ (12,689)	$ 40,919
Stock-based compensation	—	—	903	—	—	903
Issuance of common shares pursuant to exercise of options	125,596	735	(346)	—	—	389
Issuance of common shares pursuant to exercise of warrants	305,448	2,143	—	—	—	2,143
Issuance of common shares in conjunction with the private offering, net of issuance costs of $2,462,000	4,312,500	32,038	—	—	—	32,038
Currency translation adjustment	—	—	—	—	(3,135)	(3,135)
Net loss	—	—	—	(14,063)	—	(14,063)
Balance at December 31, 2013	19,048,900	216,702	25,343	(167,027)	(15,824)	59,194
Stock-based compensation	—	—	3,283	—	—	3,283
Issuance of common shares pursuant to exercise of options	648,506	5,034	(2,418)	—	—	2,616
Issuance of common shares pursuant to exercise of warrants	615,763	11,791	—	—	—	11,791
Issuance of common shares in conjunction with the private offering, net of issuance costs of $4,085,000	2,125,000	56,477	—	—	—	56,477
Currency translation adjustment	—	—	—	—	(6,489)	(6,489)
Net loss	—	—	—	(38,837)	—	(38,837)
Balance at December 31, 2014	22,438,169	290,004	26,208	(205,864)	(22,313)	88,035
Stock-based compensation	—	16,687	5,406	—	—	22,093
Issuance of common shares pursuant to exercise of options	640,457	4,186	(2,535)	—	—	1,651
Issuance of common shares pursuant to exercise of warrants	18,750	371	—	—	—	371
Issuance of common shares in conjunction with the public offering, net of issuance costs of $9,700,000	7,500,000	142,177	—	—	—	142,177
Increase of equity instruments in conjunction with the acquisition of Arbutus Inc. (note 3)	23,973,315	380,815	1,127	—	—	381,942
Currency translation adjustment	—	—	—	—	(27,469)	(27,469)
Net loss	—	—	—	(61,121)	—	(61,121)
Balance at December 31, 2015	**54,570,691**	**$ 834,240**	**$ 30,206**	**$ (266,985)**	**$ (49,782)**	**$ 547,679**

See accompanying notes to the consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION
(formerly Tekmira Pharmaceuticals Corporation)

Consolidated Statements of Cash Flows
(Expressed in thousands of US Dollars, except share and per share amounts)
(Prepared in accordance with US GAAP)

	Year ended December 31,		
	2015	2014	2013
OPERATING ACTIVITIES			
Net loss for the period	**$ (61,121)**	$ (38,837)	$ (14,063)
Items not involving cash:			
Deferred income taxes (notes 3 and 8)	**(16,185)**	—	—
Depreciation of property and equipment	**589**	529	613
Gain on sale of property and equipment	**—**	(80)	—
Stock-based compensation - research, development, collaborations and contract expenses	**7,869**	2,343	622
Stock-based compensation - general and administrative expenses	**14,224**	940	281
Unrealized foreign exchange (gains) losses	**(21,966)**	(4,218)	(18)
Change in fair value of warrant liability	**(3,341)**	10,383	3,530
Change in fair value of contingent consideration	**770**	—	—
Impairment of intangible assets (note 3)	**39,007**	—	—
Net change in non-cash operating items:			
Accounts receivable	**628**	(1,887)	889
Accrued revenue	**349**	(360)	2,008
Deferred expenses	**—**	167	231
Investment tax credits receivable	**(188)**	(52)	(31)
Prepaid expenses and other assets	**159**	(773)	(776)
Accounts payable and accrued liabilities	**(2,489)**	6,253	130
Deferred revenue	**(13,090)**	13,171	(153)
Net cash used in operating activities	**(54,785)**	(12,421)	(6,737)
INVESTING ACTIVITIES			
Disposition (acquisition) of investments	**9,645**	(41,982)	—
Cash acquired through acquisition (note 3)	**324**	—	—
Proceeds from sale of property and equipment	—	80	—
Acquisition of property and equipment	**(2,287)**	(1,056)	(725)
Net cash provided by (used in) investing activities	**7,682**	(42,958)	(725)
FINANCING ACTIVITIES			
Proceeds from issuance of common shares, net of issuance costs	**142,177**	56,477	32,038
Issuance of common shares pursuant to exercise of options	**1,651**	2,616	389
Issuance of common shares pursuant to exercise of warrants	**42**	1,583	289
Net cash provided by financing activities	**143,870**	60,676	32,716
Effect of foreign currency rate changes on cash and cash equivalents	**(2,175)**	(1,827)	(3,561)
Increase in cash and cash equivalents	**94,592**	3,470	21,693
Cash and cash equivalents, beginning of period	**72,187**	68,717	47,024
Cash and cash equivalents, end of period	**$ 166,779**	$ 72,187	$ 68,717
Supplemental cash flow information			
Fair value of warrants exercised on a cashless basis	**$ —**	$ (116)	$ 1,404
Investment tax credits received	**$ 24**	$ —	$ 10
Acquisition of Arbutus Inc. net of cash acquired	**$ 381,618**	$ —	$ —

See accompanying notes to the consolidated financial statements.

Notes to Consolidated Financial Statements
(Tabular amounts in thousands of US Dollars, except share and per share amounts)

1. Nature of business and future operations

Arbutus Biopharma Corporation (the “Company” or “Arbutus”) is a Canadian biopharmaceutical business dedicated to discovering, developing, and commercializing a cure for patients suffering from chronic hepatitis B infection (HBV), a disease of the liver caused by the hepatitis B virus (“HBV”). The Company is also developing a pipeline focused on advancing novel RNA interference therapeutics (RNAi) leveraging the Company’s expertise in Lipid Nanoparticle (LNP) technology.

Effective July 31, 2015, the corporate name changed from Tekmira Pharmaceuticals Corporation (Tekmira) to Arbutus Biopharma Corporation. Also effective July 31, 2015, the corporate name of the wholly-owned subsidiary, OnCore Biopharma, Inc. (OnCore) changed to Arbutus Biopharma, Inc. (Arbutus Inc.). Including Arbutus Inc., the Company has four wholly-owned subsidiaries: Protiva Biotherapeutics Inc. (Protiva), Protiva Biotherapeutics (USA) Inc. (Protiva USA), and Protiva Agricultural Development Company Inc. (“PADCo”). In March 2016, Monsanto exercised its option to acquire 100% of the outstanding shares in PADCo - refer to note 13 subsequent events.

The success of the Company is dependent on obtaining the necessary regulatory approvals to bring its products to market and achieve profitable operations. The continuation of the research and development activities and the commercialization of its products are dependent on the Company’s ability to successfully complete these activities and to obtain adequate financing through a combination of financing activities and operations. It is not possible to predict either the outcome of future research and development programs or the Company’s ability to continue to fund these programs in the future.

2. Significant accounting policies

Basis of presentation

Arbutus Biopharma Corporation (formerly Tekmira Pharmaceuticals Corporation) was incorporated on October 6, 2005 as an inactive wholly owned subsidiary of Inex Pharmaceuticals Corporation (Inex). Pursuant to a “Plan of Arrangement” effective April 30, 2007, the business and substantially all of the assets and liabilities of Inex were transferred to the Company. The consolidated financial statements for all periods presented herein include the consolidated operations of Inex until April 30, 2007 and the operations of the Company thereafter.

The Company has four wholly-owned subsidiaries as at December 31, 2015: Arbutus Biopharma, Inc. (formerly OnCore Biopharma, Inc.) Protiva Biotherapeutics Inc. (Protiva), Protiva Biotherapeutics (USA) Inc. (Protiva USA), and Protiva Agricultural Development Company Inc. (“PADCo”). Protiva and Protiva USA were acquired on May 30, 2008. PADCo was incorporated on January 9, 2014. Arbutus Inc. was acquired by way of a Merger Agreement on March 4, 2015, which included Arbutus Inc.'s wholly-owned subsidiary, Enantigen Therapeutics, Inc. (Enantigen) - see note 3. Enantigen was merged with Arbutus Inc. on September 30, 2015.

These consolidated financial statements include the accounts of the Company and three of its wholly-owned subsidiaries, Arbutus Inc., Protiva and Protiva USA. All intercompany transactions and balances have been eliminated on consolidation.

The Company records its investment in PADCo using the equity method. The Company has determined that PADCo is a variable interest entity (“VIE”) of which it is not the primary beneficiary. The Company is not the primary beneficiary as it does not have the power to make decisions that most significantly affect the economic performance of the VIE nor does the Company have the right to receive benefits or the obligation to absorb losses that in either case could potentially be significant to the VIE. PADCo is described further in note 4(b). In March 2016, Monsanto exercised its option to acquire PADCo - refer to note 13 subsequent events.

Use of estimates

The preparation of the consolidated financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions about future events that affect the reported amounts of assets, liabilities, revenue, expenses, contingent assets and contingent liabilities as at the end or during the reporting period. Actual results could significantly differ from those estimates. Significant areas requiring the use of management estimates relate to purchase price allocation, valuation of intangible assets and goodwill, recognition of revenue, stock-based compensation, valuation of warrant liability and financial instrument, and the amounts recorded as accrued liabilities, contingent consideration, and income tax recovery.

Cash and cash equivalents

Cash and cash equivalents are all highly liquid instruments with an original maturity of three months or less when purchased. Cash equivalents are recorded at cost plus accrued interest. The carrying value of these cash equivalents approximates their fair value.

Short-term and long-term investments

The Company acquired guaranteed investment certificates and a term deposit during the year, which are classified as short-term and long-term investments on the balance sheet respectively. Short-term investments have original maturities exceeding three months, and have remaining maturities less than one year. Long-term investments have remaining maturities exceeding twelve months. Short-term and long-term investments accrue interest daily based on a fixed interest rate for the term. The carrying value of these investments are recorded at cost plus accrued interest, which approximates their fair value. All investments are governed by the Board approved Investment Policy for the Company.

Fair value of financial instruments

We measure certain financial instruments and other items at fair value.

To determine the fair value, we use the fair value hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs market participants would use to value an asset or liability and are developed based on market data obtained from independent sources. Unobservable inputs are inputs based on assumptions about the factors market participants would use to value an asset or liability. The three levels of inputs that may be used to measure fair value are as follows:

- Level 1 inputs are quoted market prices for identical instruments available in active markets.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability either directly or indirectly. If the asset or liability has a contractual term, the input must be observable for substantially the full term. An example includes quoted market prices for similar assets or liabilities in active markets.
- Level 3 inputs are unobservable inputs for the asset or liability and will reflect management’s assumptions about market assumptions that would be used to price the asset or liability.

Assets and liabilities are classified based on the lowest level of input that is significant to the fair value measurements. Changes in the observability of valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy.

The Company’s financial instruments consist of cash and cash equivalents, short-term and long-term investments, accounts receivable, accounts payable and accrued liabilities, warrants and financial instruments. Long-term investments approximate fair value due to the interest rates being at prevailing market rates.

The carrying values of cash and cash equivalents, short-term investments, accounts receivable and accounts payable and accrued liabilities approximate their fair values due to the immediate or short-term maturity of these financial instruments.

As quoted prices for the warrants are not readily available, the Company has used a Black-Scholes pricing model, as described in note 6, to estimate fair value. These are level 3 inputs as defined above.

The Company used a discounted cash flow model to determine the fair value of the financial instrument related to Monsanto's call option to acquire the equity or all of the assets of PADCo, as described in note 4. The fair value was determined at the date of recognition, and at each reporting date. The initial fair value of the financial instrument was nil, and there has been no change to its fair value as at December 31, 2015. The assumptions used in the discounted cash flow model are level 3 inputs as defined above.

To determine the fair value of the contingent consideration, the Company uses a probability weighted assessment of the likelihood the milestones would be met and the estimated timing of such payments, and then the potential contingent payments were discounted to their present value using a probability adjusted discount rate that reflects the early stage nature of the development program, time to complete the program development, and overall biotech indices, as in note 9. The fair value was determine at the date of recognition to be $6,727,000. The Company determined the fair value of the contingent consideration has increased by $770,000 to $7,497,000 and the increase in fair value has been recorded in other losses in the statement of operations and comprehensive loss for the year-ended December 31, 2015. The assumptions used in the discounted cash flow model are level 3 inputs as defined above.

The following tables present information about the Company's assets and liabilities that are measured at fair value on a recurring basis, and indicates the fair value hierarchy of the valuation techniques used to determine such fair value:

	Level 1	Level 2	Level 3	December 31, 2015
Assets				
Cash and cash equivalents	$ 166,779	—	—	$ 166,779
Guaranteed investment certificate	14,525	—	—	14,525
Term deposit	10,070	—	—	10,070
Total	$ 191,374	—	—	$ 191,374
Liabilities				
Warrants	—	—	$ 883	$ 883
Contingent consideration	—	—	7,497	7,497
Financial instrument	—	—	—	—
Total	—	—	$ 8,380	$ 8,380

	Level 1	Level 2	Level 3	December 31, 2014
Assets				
Cash and cash equivalents	$ 72,187	—	—	$ 72,187
Guaranteed investment certificates	39,974	—	—	39,974
Total	$ 112,161	—	—	$ 112,161
Liabilities				
Warrants	—	—	$ 5,099	$ 5,099
Financial instrument	—	—	—	—
Total	—	—	$ 5,099	$ 5,099

The following table presents the changes in fair value of the Company's warrants:

	Liability at beginning of the period	Warrants issued in the period	Fair value of warrants exercised in the period	Increase (decrease) in fair value of warrants	Foreign exchange loss	Liability at end of the period
Year ended December 31, 2013	$ 4,015	$ —	$ (1,854)	$ 3,530	$ (312)	$ 5,379
Year ended December 31, 2014	$ 5,379	—	$ (10,208)	$ 10,383	$ (455)	$ 5,099
Year ended December 31, 2015	$ 5,099	—	$ (334)	$ (3,341)	$ (541)	$ 883

The following table presents the changes in fair value of the Company's contingent consideration:

	Liability at beginning of the period [1]	Increase in fair value of contingent consideration	Liability at end of the period
Year ended December 31, 2015	$ 6,727	$ 770	$ 7,497

(1) As at acquisition date of March 4, 2015 - see note 3 below.

Inventory

Inventory includes materials assigned for the manufacture of products for collaborative partners and manufacturing costs for products awaiting acceptance by collaborative partners. Inventory is carried at the lower of cost and net realizable value and measured using first-in-first-out method. The cost of inventories includes all costs of purchase, costs of manufacturing and other costs incurred in bringing the inventories to their present location and condition.

Materials purchased for the Company's own research and development products are not recorded as inventory but are expensed as incurred.

Property and equipment

Property and equipment is recorded at cost less impairment losses, accumulated depreciation, related government grants and investment tax credits. The Company records depreciation using the straight-line method over the estimated useful lives of the capital assets as follows:

	Useful life (years)
Laboratory equipment	5
Computer and office equipment	2 — 5
Furniture and fixtures	5

Leasehold improvements are depreciated over their estimated useful lives but in no case longer than the lease term, except where lease renewal is reasonably assured.

If there is a major event indicating that the carrying value of property and equipment may be impaired then management will perform an impairment test and if the carrying value exceeds the recoverable value, based on undiscounted future cash flows, then such assets are written down to their fair values.

Goodwill and intangible assets

The costs incurred in establishing and maintaining patents for intellectual property developed internally are expensed in the period incurred.

Intangible assets consist of in-process research and development arising from the Company's acquisition of Arbutus Inc. - see note 3. In-process research and development (IPR&D) intangible assets are classified as indefinite-lived and are not amortized. IPR&D becomes definite-lived upon the completion or abandonment of the associated research and development efforts. Intangible assets with finite useful lives are amortized on a straight-line basis over their estimated useful lives, which are the respective patent terms. Amortization begins when intangible assets with finite lives are put into use. If there is a major event indicating that the carrying value of intangible assets may be impaired, then management will perform an impairment test and if the carrying value exceeds the recoverable value, based on discounted future cash flows, then such assets are written down to their fair values.

Goodwill represents the excess of purchase price over the value assigned to the net tangible and identifiable intangible assets of Arbutus Inc. - see note 3. Goodwill has an indefinite accounting life and is therefore not amortized. Instead, goodwill is subject to a two-step impairment test on an annual basis, unless the Company identifies impairment indicators that would require earlier testing. The first step compares the fair value of the reporting unit to its carrying amount, which includes the goodwill. When the fair value of a reporting unit exceeds its carrying amount, goodwill of the reporting unit is considered not to be impaired, and the second step of the impairment test is unnecessary. If the carrying amount exceeds the implied fair value of the reporting unit, the second step measures the amount of the impairment loss. If the carrying amount exceeds the fair value of the reporting unit, an impairment loss is recognized equal to that excess.

The Company reviews the recoverable amount of intangible assets on an annual basis, and the annual evaluation for goodwill is performed as of December 31 each year. In addition, the Company evaluates for events or changes in the business that could indicate impairment and earlier testing. Such indicators include, but are not limited to, on an ongoing basis: (a) industry and market considerations such as increased competitive environment or adverse change in legal factors including an adverse assessment by regulators; (b) an accumulation of costs significantly in excess of the amount originally expected for the development of the asset; (c) current period operating or cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the use of the asset; and (d) if applicable, a sustained decrease in share price.

Revenue recognition

The Company earns revenue from research and development collaboration and contract services, licensing fees, milestone and royalty payments. Revenues associated with multiple element arrangements are attributed to the various elements based on their relative fair values or are recognized as a single unit of accounting when relative fair values are not determinable. Non-refundable payments received under collaborative research and development agreements are recorded as revenue as services are performed and related expenditures are incurred. Non-refundable upfront license fees from collaborative licensing and development arrangements are recognized as the Company fulfills its obligations related to the various elements within the agreements, in accordance with the contractual arrangements with third parties and the term over which the underlying benefit is being conferred. The Company evaluates new arrangements for any substantive milestones by considering: whether substantive uncertainty exists upon execution of the arrangement; if the event can only be achieved based in whole or in part on the Company's performance, or occurrence of a specific outcome resulting from the Company's performance; any future performance required, and payment is reasonable relative to all deliverables; and, the payment terms in the arrangement. Payments received upon the achievement of substantive milestones are recognized as revenue in their entirety. Payments received upon the occurrence of milestones that are non-substantive are deferred and recognized as revenue over the estimated period of performance applicable to the associated collaborative agreement.

Revenue earned under research and development manufacturing collaborations where the Company bears some or all of the risk of a product manufacturing failure is recognized when the purchaser accepts the product and there are no remaining rights of return.

Revenue earned under research and development collaborations where the Company does not bear any risk of product manufacturing failure is recognized in the period the work is performed. For contracts where the manufacturing amount is specified, revenue is recognized as product is manufactured in proportion to the total amount specified under the contract.

Revenue and expenses under the contract with the United States Government Department of Defense ("DoD") are being recorded using the percentage-of-completion method. Contract progress is based on costs incurred to date. Expenses under the contract are recorded in the Company's consolidated statement of operations and comprehensive income (loss) as they are incurred. Government contract revenues related to expenses incurred under the contract are recorded in the same period as those expenses. Expenses accrued under the contract but not yet invoiced are recorded in the Company's balance sheet as

accrued liabilities and accrued revenues. Equipment purchased under the contract is recorded on the Company's balance sheet as deferred expense and deferred revenue and amortized, on a straight-line basis, over the life of the contract.

Cash or other compensation received in advance of meeting the revenue recognition criteria is recorded on the balance sheet as deferred revenue. Revenue meeting recognition criteria but not yet received or receivable is recorded on the balance sheet as accrued revenue.

Leases and lease inducements

Leases entered into are classified as either capital or operating leases. Leases which substantially transfer all benefits and risks of ownership of property to the Company are accounted for as capital leases. At the time a capital lease is entered into, an asset is recorded together with its related long-term obligation to reflect the purchase and financing.

All other leases are accounted for as operating leases wherein rental payments are expensed as incurred.

Lease inducements represent leasehold improvement allowances and reduced or free rent periods and are amortized on a straight-line basis over the term of the lease and are recorded as a reduction of rent expense.

Research and development costs

Research and development costs, including acquired in-process research and development expenses for which there is no alternative future use, are charged as an expense in the period in which they are incurred.

Income or loss per share

Income or loss per share is calculated based on the weighted average number of common shares outstanding. Diluted loss per share does not differ from basic loss per share for the years ended December 31, 2015, 2014 and 2013, since the effect of the Company's stock options and warrants is anti-dilutive.

The following table sets out the computation of basic and diluted net income (loss) per common share:

	For the year ended December 31		
	2015	2014	2013
Numerator:			
Net loss	**$ (61,121)**	$ (38,837)	$ (14,063)
Denominator:			
Weighted average number of common shares	**45,462,324**	21,603,136	15,302,680
Basic income (loss) per common share	**$ (1.34)**	$ (1.80)	$ (0.92)
Diluted income (loss) per common share	**$ (1.34)**	$ (1.80)	$ (0.92)

For the year ended December 31, 2015, potential common shares of 2,899,331 were excluded from the calculation of income per common share because their inclusion would be anti-dilutive (December 31, 2014 – 2,221,233; December 31, 2013 – 3,064,767).

Government grants and refundable investment tax credits

Government grants and tax credits provided for current expenses is included in the determination of income or loss for the year, as a reduction of the expenses to which it relates. Government grants and tax credits towards the acquisition of property and equipment is deducted from the cost of the related property and equipment.

Foreign currency translation and change in reporting currency

The functional currency of the Company and two of its integrated subsidiaries (Protiva and Protiva USA), is the Canadian dollar, and the functional currency of Arbutus Inc. is the U.S. dollar. Foreign currency monetary assets and liabilities are translated into the functional currency at the rate of exchange prevailing at the balance sheet date. Non-monetary assets and

liabilities are translated at historical exchange rates. The previous month’s average rate of exchange is used to translate revenue and expense transactions. Exchange gains and losses are included in income or loss for the period.
The Company is using United States dollars as its reporting currency. All assets and liabilities are translated using the exchange rate at the balance sheet date. Revenues, expenses and other income (losses) are translated using the average rate for the period, except for large transactions, for which the exchange rate on the date of the transaction is used. Equity accounts are translated using the historical rate. As the translation differences from the Company’s functional currency of Canadian dollars to the Company’s reporting currency of US dollars are unrealized gains and losses, the differences are recorded in other comprehensive income (loss), and do not impact the calculation of Income or Loss per Share.

On January 1, 2016, the Company changed its functional currency from the Canadian dollar to the U.S. dollar based on management's analysis of the changes in the primary economic environment in which the Company operates. The change in functional currency is accounted for prospectively from January 1, 2016 and financial statements prior to and including the year-ended December 31, 2015 have not been restated for the change in functional currency.

Deferred income taxes

Income taxes are accounted for using the asset and liability method of accounting. Deferred income taxes are recognized for the future income tax consequences attributable to differences between the carrying values of assets and liabilities and their respective income tax bases and for loss carry-forwards. Deferred income tax assets and liabilities are measured using enacted income tax rates expected to apply to taxable income in the periods in which temporary differences are expected to be recovered or settled. The effect on deferred income tax assets and liabilities of a change in tax laws or rates is included in earnings in the period that includes the enactment date. When realization of deferred income tax assets does not meet the more-likely-than-not criterion for recognition, a valuation allowance is provided.

Stock-based compensation

The Company grants stock options to employees and directors pursuant to a share incentive plan described in note 6. Compensation expense is recorded for issued stock options using the fair value method with a corresponding increase in additional paid-in capital. Any consideration received on the exercise of stock options is credited to share capital.

The fair value of stock options is measured at the grant date and amortized on a straight-line basis over the vesting period.

Replacement awards

Replacement awards are share-based payment awards exchanged for awards held by employees of Arbutus Inc. As part of the Company’s acquisition of Arbutus Inc., Arbutus shares were exchanged for Arbutus Inc.’s shares subject to repurchase rights held by Arbutus Inc.’s employees - see note 3.

As at the date of acquisition of Arbutus Inc., the Company determined the total fair value of replacement awards and attributed a portion of the replacement awards to pre-combination service as part of the total acquisition consideration, and a portion to post-combination service, which is recognized as compensation expense over the expiry period of repurchase provision rights subsequent to the acquisition date.

The replacement awards consist of common shares that were issued at acquisition. Accordingly, as stock compensation expense related to these awards is recognized, share capital is increased by a corresponding amount. Replacement awards are excluded in the calculation of basic net income (loss) per share until the repurchase rights have expired.

Warrants

The Company accounts for the warrants under the authoritative guidance on accounting for derivative financial instruments indexed to, and potentially settled in, a company’s own stock, on the understanding that in compliance with applicable securities laws, the registered warrants require the issuance of registered securities upon exercise and do not sufficiently preclude an implied right to net cash settlement. The Company classifies warrants in its consolidated balance sheet as a liability which is revalued at each balance sheet date subsequent to the initial issuance. The Company uses the Black-Scholes pricing model to value the warrants. Determining the appropriate fair-value model and calculating the fair value of registered warrants requires considerable judgment. A small change in the estimates used may cause a relatively large change in the estimated valuation. The estimated volatility of the Company’s common stock at the date of issuance, and at each subsequent reporting period, is based on historic fluctuations in the Company’s stock price. The risk-free interest rate is based on the Government of

Canada rate for bonds with a maturity similar to the expected remaining life of the warrants at the valuation date. The expected life of the warrants is based on the historical pattern of exercises of warrants.

Segment information

The Company operates in a single reporting segment. Substantially all of the Company's revenues to date were earned from customers or collaborators based in the United States. Substantially all of the Company's premises, property and equipment are located in Canada and the United States.

Recent accounting pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (FASB) or other standard setting bodies that are adopted by the Company as of the specified effective date. Unless otherwise discussed, we believe that the impact of recently issued standards that are not yet effective will not have a material impact on our financial position or results of operations upon adoption.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842): Recognition and Measurement of Financial Assets and Financial Liabilities. The update supersedes Topic 840, Leases and requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. Topic 842 retains a distinction between finance leases and operating leases, with cash payments from operating leases classified within operating activities in the statement of cash flows. The amendments in this update are effective for fiscal years beginning after December 15, 2018 for public business entities, which for the Company means January 1, 2019. The Company does not plan to early adopt this update. The extent of the impact of this adoption has not yet been determined.

In September 2015, the FASB issued ASU 2015-16, Business Combinations (Topic 805): Simplifying the Accounting for Measurement-Period Adjustments. The update eliminates the requirement to retrospectively adjust the provisional amounts recognized at the acquisition date with a corresponding adjustment to goodwill during the measurement period when new information is obtained about the facts and circumstances that existed as of the acquisition date, that if known, would have affected the measurement of the amounts initially recognized or would have resulted in the recognition of additional assets or liabilities. The amendments in this update are effective for fiscal years beginning after December 15, 2015, which for the Company means January 1, 2016, and should be applied prospectively to adjustments to provisional amounts that occur after the effective date of this update. Early application is permitted for financial statements that have not been issued. The Company has adopted this update and applied it to the acquisition of Arbutus Inc.

In May 2014, the FASB issued ASU 2014-09, Revenue from Contracts with Customers (ASC 606). The standard is intended to clarify the principles for recognizing revenue and to develop a common revenue standard for U.S. GAAP and IFRS by creating a new Topic 606, Revenue from Contracts with Customers. This guidance supersedes the revenue recognition requirements in ASC 605, Revenue Recognition, and supersedes some cost guidance included in Subtopic 605-35, Revenue Recognition - Construction-Type and Production-Type Contracts. The core principle of the accounting standard is that an entity recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those good or services. The amendments should be applied by either (1) retrospectively to each prior reporting period presented; or (2) retrospectively with the cumulative effect of initially applying this ASU recognized at the date of initial application. In August 2015, the FASB issued ASU 2015-14, Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date to defer the effective date of Update 2014-09 for all entities by one year. The new guidance would be effective for fiscal years beginning after December 15, 2017, which for the Company means January 1, 2018. Entities are permitted to adopt in accordance with the original effective date if they choose. The Company has not yet determined the extent of the impact of adoption.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements - Going Concern (Subtopic 205-40): Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern. The update is intended to provide guidance in GAAP about management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related footnote disclosures. Under amendments to GAAP, the assessment period is within one year after the date that the financial statements are issued (or available to be issued). The amendments are effective for the annual period ending after December 15, 2016, which for the Company means January 1, 2017, and for annual periods and interim periods thereafter. Early application is permitted. The Company does not plan to early adopt this update. The extent of the impact of this adoption has not yet been determined.

3. Merger with Arbutus Biopharma, Inc. (formerly OnCore BioPharma, Inc.)

(a) Purchase Price Allocation

On January 11, 2015, the Company entered into a Merger Agreement to acquire 100% of the outstanding shares of Arbutus Inc. (formerly OnCore Biopharma, Inc.) and its wholly-owned subsidiary, Enantigen (see note 9). Arbutus Inc. was a privately owned U.S. company focused on discovery, development and commercialization of an all-oral cure regimen for patients with HBV. The merger was approved by the Company's shareholders on March 3, 2015 and closed on March 4, 2015. Arbutus Inc.'s results of operations and fair value of assets acquired and liabilities assumed are included in the Company's consolidated financial statements from the date of acquisition.

The transaction has been accounted for using the acquisition method based on ASC 805, Business Combinations, with Arbutus (formerly Tekmira) identified as the acquirer, based on managements' analysis and evaluation of the form of the acquisition, the relative contribution and rights of the predecessor groups post-closing, and the relative number of shares issued by the Company on acquisition of Arbutus Inc. Under the acquisition method, the consideration transferred is measured at fair value; common shares as consideration are issued at the market price as at the acquisition date. The excess of the purchase price over the preliminary fair value assigned to the net assets acquired has been recorded as goodwill. Acquisition costs were expensed as incurred. The Company recorded $9,656,000 of acquisition costs for the year ended December 31, 2015 (2014 - $462,000).

The Company issued consideration with a total fair value of $381,942,000 on acquisition. Of this consideration, 23,973,315 common shares were issued, which is comprised of 20,347,906 common shares issued without subjects and 3,625,412 common shares issued to Arbutus Inc.'s founding executives and subject to repurchase provisions. The fair value of the common shares issued without subjects has been determined to be the Company's NASDAQ closing price of $18.26 on the date prior to the acquisition's consummation, March 4, 2015. The total fair value of the common shares issued subject to repurchase provision has been determined to be $66,196,000, using the Black-Scholes pricing model with assumed risk-free interest rate of 0.74%, volatility of 81%, a zero dividend yield and an expected life of 4 years. Of the total fair value, $9,262,000 has been attributed as pre-combination service and included as part of the total acquisition consideration. The post-combination attribution of $56,934,000 will be recognized as compensation expense over the period of expiry of repurchase provision rights and is not included in the total acquisition consideration. In July 2015, in conjunction with amendments to the employment contracts of Arbutus Inc.'s founding executives, the Company amended the repurchase provision rights period of expiry from August 2018 to August 2017. This amendment results in an acceleration of compensation expense recognized in each subsequent period by approximately $1,900,000 per quarter, effective in Q3 2015. The Company recorded $16,687,000 in stock-based compensation expense related to services performed during the period of expiration of repurchase provision rights from the acquisition date through to December 31, 2015.

As at the acquisition date, 3,625,412 shares were issued and outstanding which were and continue to remain subject to a repurchase provision. Subsequent to the acquisition date and the July 2015 amendment to the repurchase provision rights, the rights expire at a rate of 302,120 on November 30, 2015 and February 29, 2016 and at a rate of 503,552 shares every three months thereafter commencing May 31, 2016.

The Company has further reserved 184,332 shares for the future exercise of Arbutus Inc. stock options. The total fair value of Arbutus Inc. stock options at the date of acquisition has been determined to be $3,287,000, using the Black-Scholes pricing model with an assumed risk-free interest rate of 0.97%, volatility of 78%, a zero dividend yield and an expected life of 8 years, which are consistent with the assumption inputs used by the Company to determine the fair value of its options. Of the total fair value, $1,127,000 has been attributed as pre-combination service and included as part of the total acquisition consideration. The post-combination attribution of $2,160,000 will be recognized as compensation expense over the vesting period of the stock options through to December 2018. The Company has included $463,000 compensation expense related to the vesting of Arbutus Inc. stock options from the acquisition date through to December 31, 2015.

The aggregate fair value of consideration transferred to acquire Arbutus Inc.'s outstanding shares has been determined to be $381,942,000, and has been attributed to fair values of assets acquired and liabilities assumed. The Company has refined the preliminary allocation of the purchase price for intangible assets, goodwill, contingent consideration and deferred tax liability from what was disclosed in prior periods. The following table summarizes the Company's finalized purchase price allocation as at December 31, 2015:

Consideration paid:		
Common shares issued without subjects	$	371,553
Common shares issued subject to repurchase provision		9,262
Common shares issuable for Arbutus Inc. stock options		1,127
	$	381,942

Identifiable assets acquired and liabilities assumed:		
Cash	$	324
Prepaid expenses and other assets		116
Accounts receivable		8
Property and equipment		147
Acquired intangible assets		391,649
Goodwill		162,514
Accounts payable and accrued liabilities		(3,580)
Other non-current liabilities (note 9)		(6,727)
Deferred income tax liability		(162,509)
Total purchase price allocation	$	381,942

The fair value of intangible assets is estimated to be $391,649,000. The fair value of each IPR&D asset is estimated using the income approach. The income approach uses valuation techniques to discount future economic benefits attributed to the subject intangible asset to a present value. Present value is based on current market expectations about those future amounts and includes management's estimates of risk-adjusted future incremental earnings that may be achieved upon regulatory approval, promotion, and distribution associated with the rights and includes estimated cash flows of approximately 20 years and a discount rate of approximately 13.7%. The identifiable intangible assets acquired consist of in-process research and development (IPR&D) HBV assets, as summarized in the table below:

IPR&D – Cyclophilins	$	39,007
IPR&D – Immune Modulators		183,103
IPR&D – Antigen Inhibitors		36,437
IPR&D – cccDNA Sterilizers		133,102
Total IPR&D	**$**	**391,649**

All IPR&D acquired is currently classified as indefinite-lived and is not currently being amortized. IPR&D becomes definite-lived upon the completion or abandonment of the associated research and development efforts, and will be amortized from that time over an estimated useful life based on respective patent terms. The fair value of each IPR&D asset will continue to be evaluated on a quarterly basis for indicators of impairment.

Based on the fair values above, an amount of $162,514,000 has been allocated to goodwill, which represents the excess of the purchase price over the fair values assigned to the net assets acquired. Goodwill is attributable to synergies expected to arise after the Company's acquisition of Arbutus Inc. The full amount of the value of goodwill has been assigned to the entire Company, since management has determined that the Company has only one reporting unit. The goodwill is not deductible for tax purposes, and is not amortized, but will be evaluated for impairment on an annual basis or more often if the Company identifies impairment indicators that would require earlier testing.

Reconciliation of preliminary to final purchase price allocation

During the year ended December 31, 2015, the Company finalized the purchase price allocation and made revisions to certain preliminary estimated fair values of assets acquired and liabilities assumed. The following table presents a summary of revisions and adjustments made to the preliminary estimates as previously disclosed to the finalized purchase price allocation:

	Preliminary Amounts Recognized as of Acquisition Date [1]	Measurement Period Adjustments [2]	Amounts Recognized as of Acquisition Date (as adjusted)
Purchase Price	$ 381,942	$ —	$ 381,942
Identifiable assets acquired and liabilities assumed:			
Cash	$ 324	$ —	$ 324
Prepaid expenses and other assets	127	(11)	116
Accounts receivable	8	—	8
Property and equipment	147	—	147
Acquired intangible assets	389,652	1,997	391,649
Goodwill	155,865	6,649	162,514
Accounts payable and accrued liabilities	(3,580)	—	(3,580)
Other non-current liabilities (note 8)	(4,736)	(1,991)	(6,727)
Deferred income tax liability	(155,865)	(6,644)	(162,509)
Total purchase price allocation	$ 381,942	$ —	$ 381,942

1. The preliminary purchase price as of the acquisition date of March 4, 2015 as previously disclosed in the notes to consolidated financial statements included in the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2015.
2. The measurement period is from the acquisition date of March 4, 2015 to the date the Company finalized the purchase price allocation on December 31, 2015.

The measurement period adjustment for intangible assets acquired was made as the Company revised certain royalty rates on future sales of various intangible assets acquired. This resulted in an increase in deferred income tax liability associated with the intangible assets. In addition, the Company revised its preliminary tax rate based on management's revised analysis of a combined federal and state tax rate in the jurisdiction in which the Company expects the deferred tax liability to be settled or realized.

The measurement period adjustment for other non-current liabilities relate to the contingent consideration payable to former Enantigen shareholders upon the achievement of certain regulatory, development and sales milestones, as described in note 9. The adjustment relates to management's revision to the probabilities used in a probability weighted assessment of the likelihood of milestones being met and timing of such payments.

Based on the above measurement period adjustments, the increase to goodwill of $6,649,000 results in a final goodwill allocation of $162,514,000. As described in note 2 and further below, the Company conducts its annual goodwill impairment test on December 31st.

Pro forma information

The amount of net loss of Arbutus Inc. included in the consolidated statements of operations from the acquisition date, through the period ended December 31, 2015 was $13,658,000. Arbutus Inc. did not earn any revenues from the acquisition date through the year-ended December 31, 2015.

The following table presents the unaudited pro forma results for the year ended December 31, 2015 and 2014. The pro forma financial information combines the results of operations of Arbutus, Arbutus Inc., Protiva, Protiva USA, and Enantigen as though the businesses had been combined as of the beginning of fiscal 2014. The pro forma financial information is presented for informational purposes only, and is not indicative of the results of operations that would have been achieved if the merger had taken place at the beginning of fiscal 2014. The pro forma financial information presented includes acquisition costs, amortization charges for acquired tangible assets, impairment charge on acquired intangible assets (as described in note 3b below), but does not include amortization charges for acquired intangible assets as these assets have not yet been put in use.

	Year ended December 31,	
	2015	2014
Pro forma information		
Gross Revenue	**$ 24,873**	$ 14,953
Loss from operations	**(109,387)**	(51,088)
Net loss	**(67,416)**	(56,491)
Basic and diluted loss per share	**$ (1.38)**	$ (1.24)

(b) Impairment evaluations for intangible assets and goodwill

The Company evaluates the recoverable amount of intangible assets on an annual basis and performs an annual evaluation of goodwill as of December 31 each year, unless there is an event or change in the business that could indicate impairment and earlier testing.

Impairment of intangible assets

On October 28, 2015, the Company announced that the development of the cyclophilin drug candidate, OCB-030 has been discontinued. The decision was based on extensive preclinical evaluations performed by the Company of OCB-030 and other competitive cyclophilin inhibitors following the acquisition of Arbutus Inc., which concluded that cyclophilins do not play a meaningful role in HBV biology. Although the final conclusion was made subsequent to the period end, it reflected management's best estimate as at September 30, 2015, and as such, the Company recorded an estimated impairment charge of $37,990,000 and a corresponding income tax benefit of $15,196,000 related to the decrease in deferred tax liability for the discontinuance of OCB-030 in the consolidated statement of operations and comprehensive loss.

As noted above, the Company finalized its purchase price allocation during the fourth quarter of 2015 by making certain revisions to estimates which included adjustments to the fair value of individual intangible assets acquired. The fair value of cyclophilin inhibitors has been adjusted to be $39,007,000 as compared to management's best estimate of $37,990,000 previously written off in the third quarter. The incremental adjustment to fair value of $1,017,000 as well as the corresponding incremental adjustment to income tax benefit of $989,000 are cumulatively reflected in the Company's consolidated statement of operations and comprehensive loss for the year-ended December 31, 2015. For all other IPR&D, fair values of the intangible assets were calculated to be above the respective carrying values; therefore, no impairment was recorded. The following table summarizes the carrying values, net of impairment of the intangible assets as at December 31, 2015:

IPR&D – Cyclophilins	$ —
IPR&D – Immune Modulators	183,103
IPR&D – Antigen Inhibitors	36,437
IPR&D – cccDNA Sterilizers	133,102
Total IPR&D	**$ 352,642**

Annual impairment evaluation of goodwill

On December 31, the Company conducted its annual impairment evaluation of goodwill. Goodwill was recorded as a result of the acquisition of Arbutus Inc. as described in note 3(a), and has a carrying value of $162,514,000. As part of the evaluation of the recoverability of goodwill, the Company has identified only one reporting unit to which the total carrying amount of goodwill has been assigned. The income approach is used to estimate the fair value of the reporting unit, which requires estimating future cash flows and risk-adjusted discount rates. Changes in these estimates and assumptions could materially affect the determination of fair value of the reporting unit and may result in impairment charges in future periods.

As at December 31, 2015, the fair value of the reporting unit exceeded the carrying value of the reporting unit, and as such the second step of the impairment test, which measures the amount of impairment charge, was not required. In addition to the income approach, the Company considered the market capitalization of approximately $242,844,000 as at December 31, 2015. Although the Company's carrying value of $547,679,000 exceeded the market capitalization, the Company reconciled the income approach determination of fair value with the market capitalization by considering macroeconomic factors, and as such, the Company does not believe that market capitalization appropriately reflected the value of the Company for the purpose of testing goodwill impairment. No impairment charge on goodwill was recorded for the year ended December 31, 2015.

4. Collaborations, contracts and licensing agreements

The following tables set forth revenue recognized under collaborations, contracts and licensing agreements:

	Year ended December 31		
	2015	2014	2013
Collaborations and contracts			
DoD (a)	**$ 6,764**	$ 8,407	$ 9,806
Monsanto (b)	**4,725**	1,080	**—**
BMS (d)	**—**	1,741	526
Dicerna (e)	**1,820**	510	**—**
Other RNAi collaborators (g)	**—**	—	93
Total research and development collaborations and contracts	**13,309**	11,738	10,425
Licensing fees, milestone and royalty payments			
Monsanto licensing fees and milestone payments (b)	**10,256**	2,744	**—**
Alnylam and Acuitas licensing fees and milestone payments (c)	**15**	150	5,000
Dicerna licensing fee (e)	**1,053**	131	**—**
Spectrum royalty payments (f)	**240**	190	40
Total licensing fees, milestone and royalty payments	**11,564**	3,215	5,040
Total revenue	**$ 24,873**	$ 14,953	$ 15,465

The following table sets forth deferred collaborations and contracts revenue:

	December 31, 2015	December 31, 2014
DoD (a)	**$ 15**	$ 313
Monsanto current portion (b)	**—**	4,245
Dicerna current portion (e)	**853**	1,221
Deferred revenue, current portion	**868**	5,779
Monsanto long-term portion (b)	**—**	8,666
Dicerna long-term portion (e)	**213**	1,271
Total deferred revenue	**$ 1,081**	$ 15,716

(a) Contract with United States Government's Department of Defense ("DoD") to develop TKM-Ebola

On July 14, 2010, the Company signed a contract with the DoD to advance TKM-Ebola, an RNAi therapeutic utilizing the Company's lipid nanoparticle technology to treat Ebola virus infection.

In the initial phase of the contract, funded as part of the Transformational Medical Technologies program, the Company was eligible to receive up to $34,700,000. This initial funding was for the development of TKM-Ebola including completion of preclinical development, filing an Investigational New Drug application with the United States Food and Drug Administration ("FDA") and completing a Phase 1 human safety clinical trial. On May 8, 2013, the Company announced that the contract had been modified to support development plans that integrate recent advancements in lipid nanoparticle ("LNP") formulation and manufacturing technologies. The contract modification increased the stage one targeted funding by an additional $6,970,000. On April 22, 2014, the Company and the DoD signed a contract modification to further increase the stage one targeted funding by $2,100,000 to $43,819,000. The additional funding was to compensate the Company for unrecovered overheads related to the temporary stop-work period that occurred in 2012 and to provide additional overhead funding should it be required.

The DoD had the option of extending the contract beyond the initial funding period to support the advancement of TKM-Ebola through to the completion of clinical development and FDA approval. Based on the contract's budget this would have provided the Company with up to $140,000,000 in funding for the entire program. In December 2014, the DoD exercised an option valued at $7,000,000 to manufacture TKM-Ebola-Guinea, developed by the Company targeting the Ebola-Guinea strain responsible for the current outbreak in West Africa.

Under the contract, the Company is reimbursed for costs incurred, including an allocation of overhead costs, and is paid an incentive fee. At the beginning of the fiscal year, the Company estimates its labor and overhead rates for the year ahead. At the end of the year the actual labor and overhead rates are calculated and revenue is adjusted accordingly. The Company's actual labor and overhead rates will differ from its estimated rates based on actual costs incurred and the proportion of the Company's efforts on contracts and internal products versus indirect activities. Within minimum and maximum collars, the amount of incentive fee the Company can earn under the contract varies based on costs incurred versus budgeted costs. During the contractual period, incentive fee revenue and total costs are impacted by management's estimate and judgments which are continuously reviewed and adjusted as necessary using the cumulative catch-up method. For the years ended December 31, 2014 and 2015, the Company believes it can reliably estimate the final contract costs so has recognized the portion of expected incentive fee which has been earned to date.

On October 1, 2015, the Company received formal notification from the DoD that, due to the unclear development path for TKM-Ebola and TKM-Ebola-Guinea, the Ebola-Guinea Manufacturing and the Ebola-Guinea IND submission statements of work had been terminated, subject to the completion of certain post-termination obligations. The TKM-Ebola portion of the contract was completed in November 2015. The Company is currently conducting contract close out procedures with the DoD.

(b) Option and Services Agreements with Monsanto Company ("Monsanto")

On January 13, 2014, the Company and Monsanto signed an Option Agreement and a Services Agreement (together, the "Agreements"). Under the Agreements, Monsanto has an option to obtain a license to use the Company's proprietary delivery technology and related intellectual property for use in agriculture. Over the option period, which is expected to be approximately four years, the Company will provide lipid formulations for Monsanto's research and development activities, and Monsanto will make certain payments to the Company to maintain its option rights. The maximum potential value of the transaction is $86,200,000 following the successful completion of milestones.

In May 2015, the arrangement was amended to extend the option period by approximately five months, with payments up to $2,000,000 for the extension period. From inception of the contract to December 31, 2015, the Company had received $19,300,000 from Monsanto. The amounts received relate to research services and use of the Company's technology over the option period, and are recognized as revenue on a straight-line basis over the extended option period.

Following the completion of the Phase A extension period in October 2015, no further research activities were conducted under the arrangement, as Monsanto did not elect to proceed to Phase B of the research plan. As such, the Company revised its estimate of the option period, over which payments received from Monsanto is recognized as revenue, to be from inception to December 31, 2015 as the Company believes it no longer has any further obligations to provide future research activities to Monsanto. This resulted in the full release of Monsanto deferred revenue and a recognition of $14,981,000 in Monsanto revenue for the year-ended December 31, 2015.

Under the Agreements, the Company has established a wholly-owned subsidiary, PADCo. The Company has determined that PADCo is a variable interest entity ("VIE"); however, Monsanto is the primary beneficiary of the arrangement. PADCo was established to perform research and development activities, which have been funded by Monsanto in return for a call option to acquire the equity or all of the assets of PADCo. At any time during the option period, Monsanto may choose to exercise its option, in which case Monsanto would pay the Company an option exercise fee and would receive a worldwide, exclusive right to use the Company's proprietary delivery technology in the field of agriculture. Monsanto may elect to terminate this option at their discretion. The Company retains all rights to therapeutics uses of all current intellectual property and intellectual property developed under the Agreements. The Company's initial investment is not significant, and the Company has no implied or unfunded commitments and the maximum exposure to loss is limited to the amount of investment in the entity. The Company has included its investment in PADCo in other assets. There were no significant assets or liabilities for PADCo as at December 31, 2015. There was no equity income or loss with respect to PADCo recorded for the periods ended December 31, 2014 and December 31, 2015. In March 2016, Monsanto exercised its option to acquire 100% of the outstanding shares of PADCo and will pay the Company an exercise fee of $1,000,000 - refer to note 13 for the subsequent event.

(c) License and collaboration with Alnylam Pharmaceuticals, Inc. (Alnylam) and Acuitas Therapeutics Inc. (Acuitas)

Milestone receipts and payments

In November 2013, Alnylam initiated a Phase III trial with ALN-TTR02, also known as patisiran, and the associated $5,000,000 development milestone was paid to the Company in December 2013. In addition, the Company earned a $150,000 milestone in March 2014 from Acuitas (formerly AlCana Technologies, Inc.) subsequent to Acuitas receiving a milestone payment from Alnylam with respect to Alnylam initiating a Phase III trial for ALN-TTR02.

In November 2013, the Company initiated Phase I/II clinical trial for TKM-PLK1, resulting in a milestone payment of $375,000 to Alnylam.

Arbitration with Alnylam and Ascletis Pharmaceuticals (Hangzhou) Co. Ltd. ("Ascletis")

On June 21, 2013, the Company transferred manufacturing process technology to Ascletis to enable them to produce ALN-VSP, a product candidate licensed to them by Alnylam. The Company believed that under its licensing agreement with Alnylam, the technology transfer to Ascletis triggered a $5,000,000 milestone obligation from Alnylam to the Company. However, Alnylam demanded a declaration that the Company had not yet met its milestone obligations. The Company disputed Alnylam's position. To remedy this dispute, the Company and Alnylam commenced arbitration proceedings as provided for under the agreement. The hearing date for this arbitration took place in May 2015, and in March 2016, the arbitration proceeding with Alnylam has concluded resulting in no milestone payment to the Company. The Company has not recorded any revenue in respect of this milestone for the year-ended December 31, 2015.

(d) Bristol-Myers Squibb ("BMS") collaboration

On May 10, 2010 the Company announced the expansion of its research collaboration with BMS. Under the new agreement, BMS uses small interfering RNA ("siRNA") molecules formulated by the Company in LNP technology to silence target genes of interest. BMS is conducting the preclinical work to validate the function of certain genes and share the data with the Company. The Company can use the preclinical data to develop RNAi therapeutic drugs against the therapeutic targets of interest. The Company received $3,000,000 from BMS concurrent with the signing of the agreement and recorded the amount as deferred revenue. The Company is required to provide a pre-determined number of LNP batches over the four-year agreement. BMS has a first right to negotiate a licensing agreement on certain RNAi products developed by the Company that evolve from BMS validated gene targets.

Revenue from the May 10, 2010 agreement with BMS is being recognized as the Company produces the related LNP batches.

Revenue earned for the year-ended December 31, 2014 relates to batches shipped to BMS during the period. In August 2014, the agreement expired and both companies' obligations under the agreement ended.

(e) License and Development and Supply Agreement with Dicerna Pharmaceuticals, Inc. (“Dicerna”)

On November 16, 2014, the Company signed a License Agreement and a Development and Supply Agreement (together, the “Agreements”) with Dicerna to development, manufacture, and commercialization of products directed to treatment of Primary Hyperoxaluria 1 (“PH1”), In consideration for the rights granted under the Agreements, Dicerna paid the Company an upfront cash payment of $2,500,000. The Company is also entitled to receive payments from Dicerna on the manufacturing and services provided, as well as further payments with the achievement of development and regulatory milestones of $22,000,000 in aggregate, and potential commercial royalties. Further, under the Agreements, a joint development committee has been established to provide guidance and direction on the progression of the collaboration.

The Company determined the deliverables under the Agreements included the rights granted, participation in the joint development committee, materials manufactured and other services provided, as directed under the joint development committee. The license and participation in the joint development committee have been determined by the Company to not have standalone value due to the uniqueness of the subject matter under the Agreements. Therefore, these deliverables are treated as one unit of accounting and recognized as revenue over the performance period, which the Company has estimated to be approximately 28 months as at December 31, 2015.

The Company has determined that manufacturing services and other services provided have standalone value, as a separate statement of work is executed and invoiced for each manufacturing or service work order. The relative fair values are determined as a batch price or fee is estimated upon the execution of each work order, with actual expenditures charged at comparable market rates with embedded margins on each work order.

Manufacturing work orders are invoiced at the time of execution of the work order, at the initiation of manufacture, and at the release of materials. The Company has deferred the recognition of revenue on all cash deposit payments received for manufacturing work orders until acceptance of inventory. Revenue from service work orders is recognized as the services are performed.

The Company believes the development and regulatory milestones are substantive, due to the existence of substantive uncertainty upon the execution of the arrangement, and that the achievement of the development and regulatory events are based in part on the Company’s performance and the occurrence of a specific outcome resulting from performance. The Company has not received any milestone payments to date.

(f) Agreements with Spectrum Pharmaceuticals, Inc. (“Spectrum”)

On May 6, 2006, the Company signed a number of agreements with Talon Therapeutics, Inc. (“Talon”, formerly Hana Biosciences, Inc.) including the grant of worldwide licenses (the “Talon License Agreement”) for three of the Company’s chemotherapy products, Marqibo®, Alocrest ™ (Optisomal Vinorelbine) and Brakiva ™ (Optisomal Topotecan).

On August 9, 2012, the Company announced that Talon had received accelerated approval for Marqibo from the FDA for the treatment of adult patients with Philadelphia chromosome negative acute lymphoblastic leukemia in second or greater relapse or whose disease has progressed following two or more anti-leukemia therapies. Marqibo is a liposomal formulation of the chemotherapy drug vincristine. In the year ended December 31, 2012, the Company received a milestone of $1,000,000 based on the FDA’s approval of Marqibo and will receive royalty payments based on Marqibo’s commercial sales. There are no further milestones related to Marqibo but the Company is eligible to receive total milestone payments of up to $18,000,000 on Alocrest and Brakiva.

Talon was acquired by Spectrum in July 2013. The acquisition did not affect the terms of the license between Talon and the Company. On September 3, 2013, Spectrum announced that they had shipped the first commercial orders of Marqibo. In the year ended December 31, 2015, the Company recorded $240,000 in Marqibo royalty revenue (2014 - $190,000, 2013 -$40,000). In the year ended December 31, 2015, the Company accrued $6,000 in royalties due to TPC in respect of the Marqibo royalty earned by the Company (see note 9).

(g) Other RNAi collaborators

The Company had active research agreements with a number of other RNAi collaborators.

5. Property and equipment

December 31, 2015	Cost	Accumulated depreciation	Net book value
Lab equipment	$ 5,910	$ (3,748)	$ 2,162
Leasehold improvements	4,681	(4,189)	492
Computer hardware and software	2,014	(1,487)	527
Furniture and fixtures	307	(305)	2
	$ 12,912	$ (9,729)	$ 3,183

December 31, 2014	Cost	Accumulated depreciation	Net book value
Lab equipment	$ 5,021	$ (4,451)	$ 570
Leasehold improvements	5,281	(4,796)	485
Computer hardware and software	2,293	(1,588)	705
Furniture and fixtures	364	(364)	—
	$ 12,959	$ (11,199)	$ 1,760

As at December 31, 2015, all of the Company's property and equipment are currently in use and no impairment has been recorded.

6. Share capital

(a) Financing

On October 22, 2013, the Company completed an underwritten public offering of 3,750,000 common shares, at a price of $8.00 per share, representing gross proceeds of $30,000,000. On November 1, 2013, the offering's underwriter completed the exercise of its over-allotment option to purchase a further 562,500 shares at $8.00 bringing the aggregate financing gross proceeds to $34,500,000. The cost of the financing, including commissions and professional fees, was $2,462,000, resulting in net proceeds of $32,038,000.

On March 26, 2014, the Company completed an underwritten public offering of 2,125,000 common shares, at a price of $28.50 per share, representing gross proceeds of $60,562,000. The Company also granted the underwriters a 30-day option to purchase an additional 318,750 shares for an additional $9,084,000 to cover any over-allotments. The underwriters did not exercise the option. The cost of financing, including commissions and professional fees, was $4,085,000, resulting in net proceeds of $56,477,000.

On March 25, 2015, the Company announced that it had completed an underwritten public offering of 7,500,000 common shares, at a price of $20.25 per share, representing gross proceeds of $151,875,000. The Company also granted the underwriters a 30-day option to purchase an additional 1,125,000 shares for an additional $22,781,000 to cover any over-allotments. The underwriters did not exercise the option. The cost of financing, including commissions and professional fees, was $9,700,000, resulting in net proceeds of $142,177,000.

(b) Authorized share capital

The Company's authorized share capital consists of an unlimited number of common and preferred shares without par value.

(c) Warrants to purchase common shares

During the year ended December 31, 2015, there were 18,750 warrants exercised for $42,000 in cash (December 31, 2014 – 610,478 warrants for $1,583,000) and no warrants were exercised using the cashless exercise provision (December 31, 2014 – 6,000 warrants for 5,285 common shares).

The following table summarizes the Company's warrant activity for the years ended December 31, 2015 and 2014:

	Common shares purchasable upon exercise of warrants	Weighted average exercise price (C$)	Weighted average exercise price (US$)	Range of exercise prices (C$)			Range of exercise prices (US$)			Weighted average remaining contractual life (years)	Aggregate intrinsic value (C$)	Aggregate intrinsic value (US$)
Balance, December 31, 2013	1,014,728	$ 2.90	$ 2.72	$2.60	—	$ 3.35	$2.44	—	$ 3.15	2.7	$ 5,635	$ 5,298
Exercised	(616,478)	3.09	2.80	2.60	—	3.35	2.35	—	3.03			
Balance, December 31, 2014	398,250	2.95	2.67	2.60	—	3.35	2.35	—	3.03	1.8	5,902	5,343
Exercised	(18,750)	2.88	2.25	2.60	—	3.35	2.03	—	2.62			
Balance, December 31, 2015	379,500	$ 2.95	$ 2.13	$2.60	—	$ 3.35	$2.03	—	$ 2.62	0.8	$ 1,217	$ 879

The aggregate intrinsic value in the table above is calculated based on the difference between the exercise price of the warrants and the quoted price of the Company's common stock as of the reporting date.

All of the Company's warrants were exercisable as of December 31, 2015.

The weighted average Black-Scholes option-pricing assumptions and the resultant fair values are as follows for warrants outstanding at December 31, 2015 and 2014 are as follows:

	As at December 31	
	2015	2014
Dividend yield	**—%**	—%
Expected volatility	**49.07%**	85.22%
Risk-free interest rate	**0.48%**	1.00%
Expected average term (years)	**0.6 years**	0.5 years
Fair value of warrants outstanding	**$ 2.33**	$ 12.80
Aggregate fair value of warrants outstanding	**$ 883**	$ 5,099
Number of warrants outstanding	**379,500**	398,250

The value of the Company's warrants are particularly sensitive to changes in the Company's share price and the estimated share price volatility.

(d) Stock-based compensation

The Company has six share-based compensation plans; the "2007 Plan", the "2011 Plan", two "Designated Plans" (together, the "Arbutus Plans"), the "Protiva Option Plan", and the "OnCore Option Plan" (see note 3 above).

On June 22, 2011, the shareholders of the Company approved an omnibus stock-based compensation plan (the "2011 Plan"). The Company's pre-existing 2007 Plan was limited to the granting of stock options as equity incentive awards whereas the 2011 Plan also allows for the issuance of tandem stock appreciation rights, restricted stock units and deferred stock units (collectively, and including options, referred to as "Awards"). The 2011 Plan replaces the 2007 Plan. The 2007 Plan will continue to govern the options granted thereunder. No further options will be granted under the Company's 2007 Plan.

Under the Company's 2007 Plan the Board of Directors granted options to employees, directors and consultants of the Company. The exercise price of the options was determined by the Company's Board of Directors but was always at least equal to the closing market price of the common shares on the day preceding the date of grant and the term of options granted did not exceed 10 years. The options granted generally vested over three years for employees and immediately for directors.

Under the Company's 2011 Plan the Board of Directors may grant options, and other types of Awards, to employees, directors and consultants of the Company. The exercise price of the options is determined by the Company's Board of Directors but will be at least equal to the closing market price of the common shares on the day preceding the date of grant and the term may not exceed 10 years. Options granted generally vest over three years for employees and immediately for directors.

Additionally, the Company granted a total of 200,000 options in 2013 to two executive officers in conjunction with their new appointments as executive officers. These options were granted in accordance with the policies of the Toronto Stock Exchange and pursuant to newly designated share compensation plans (the "Designated Plans"). The Designated Plans are governed by substantially the same terms as the 2011 Plan. Hereafter, information on options governed by the 2007 Plan, the 2011 Plan, and the Designated Plans is presented on a consolidated basis as the terms of the four plans are similar. Information on the Protiva Option Plan and the OnCore Option Plan is presented separately.

At the Company's annual general and special meeting of shareholders on May 8, 2014 and July 9, 2015, the shareholders of the Company approved respectively, a 800,000 and a 3,500,000 increase in the number of stock-based compensation awards that the Company is permitted to issue.

Stock option activity for the Arbutus Plans

	Number of optioned common shares	Weighted average exercise price (C$)	Weighted average exercise price (US$)	Aggregate intrinsic value (C$)	Aggregate intrinsic value (US$)
Balance, December 31, 2012	1,648,846	$ 4.54	$ 4.54	$ 2,300	$ 2,301
Options granted	270,250	7.52	7.30		
Options exercised	(124,246)	3.22	3.13	551	535
Options forfeited, canceled or expired	(64,085)	21.87	21.23		
Balance, December 31, 2013	1,730,765	4.45	4.32	7,030	6,826
Options granted	431,125	13.63	12.34		
Options exercised	(622,752)	4.62	4.18	7,650	6,926
Options forfeited, canceled or expired	(9,000)	8.20	7.42		
Balance, December 31, 2014	1,530,138	6.95	6.29	16,573	15,004
Options granted	1,309,625	N/A	16.57		
Options exercised	(398,293)	5.03	3.93	6,887	5,386
Options forfeited, canceled or expired	(151,207)	19.29	15.09		
Balance, December 31, 2015	2,290,263	$ 15.53	$ 11.22	$ 1,376	$ 994

Options under the Arbutus Plans expire at various dates from March 28, 2016 to December 2, 2025.

The following table summarizes information pertaining to stock options outstanding at December 31, 2015 under the Arbutus Plans:

			Options outstanding December 31, 2015			Options exercisable December 31, 2015	
Range of Exercise prices (US$)			Number of options outstanding	Weighted average remaining contractual life (years)	Weighted average exercise price (US$)	Number of options exercisable	Weighted average exercise price (US$)
$1.08	to	$1.37	102,800	4.9	$ 1.24	102,800	$ 1.24
$1.52	to	$1.88	120,475	5.8	1.66	120,475	1.66
$2.17	to	$2.78	83,000	2.9	2.56	83,000	2.56
$3.24	to	$4.70	288,960	5.4	3.84	268,900	3.83
$5.10	to	$7.50	261,923	7.7	6.33	175,112	6.12
$8.38	to	$10.04	176,813	8.7	9.35	99,189	9.24
$10.69	to	$13.39	129,417	8.2	11.93	79,252	11.90
$13.40	to	$17.57	1,126,875	9.2	17.02	10,002	17.57
$1.08	to	$17.57	2,290,263	7.9	$ 11.22	938,730	$ 4.98

At December 31, 2015, there were 938,730 options exercisable (December 31, 2014 - 1,088,908; December 31, 2013 – 1,377,091) . The weighted average remaining contractual life of exercisable options as at December 31, 2015 was 6.1 years.

The aggregate intrinsic value of in-the-money options exercisable at December 31, 2015 was $994,000.

A summary of the Company's non-vested stock option activity and related information for the year ended December 31, 2015 is as follows:

	Number of optioned common shares	Weighted average fair value (C$)	Weighted average fair value (US$)
Non-vested at December 31, 2014	441,230	$ 9.30	$ 8.42
Options granted	1,309,625	15.20	11.89
Options vested	(250,461)	8.77	6.86
Non-vested options forfeited	(148,853)	14.27	11.16
Non-vested at December 31, 2015	1,351,541	$ 15.69	$ 11.34

The weighted average remaining contractual life for options expected to vest at December 31, 2015 was 9.1 years and the weighted average exercise price for these options was $15.54 (C$21.51) per share.

The aggregate intrinsic value of options expected to vest as at December 31, 2015 was $10,000 (December 31, 2014 - $2,626,000; December 31, 2013 -$943,000).

The total fair value of options that vested during the year ended December 31, 2015 was $1,718,000 (2014 - $2,505,000; 2013 -$955,000).

Valuation assumptions for the Arbutus Plans

On March 3, 2015, the Company de-listed from the Toronto Stock Exchange. All stock options granted after March 3, 2015 were denominated in US dollars based on the Company's stock price on the NASDAQ. The methodology and assumptions used to estimate the fair value of stock options at date of grant under the Black-Scholes option-pricing model remain unchanged. Assumptions on the dividend yield are based on the fact that the Company has never paid cash dividends and has no present intention to pay cash dividends. Assumptions about the Company's expected stock-price volatility are based on the historical volatility of the Company's publicly traded stock. The risk-free interest rate used for each grant is equal to the zero coupon rate for instruments with a similar expected life. Expected life assumptions are based on the Company's historical data. Based on an analysis of its historical forfeitures, the Company has applied a forfeiture rate to all unvested options held as of December 31, 2015. The Company will record additional expense if the actual forfeitures are lower than estimated and will record a recovery of prior expense if the actual forfeitures are higher than estimated. The weighted average option pricing assumptions and the resultant fair values are as follows:

	Year ended December 31		
	2015	2014	2013
Dividend yield	**—%**	—%	—%
Expected volatility	**76.88%**	101.08%	111.61%
Risk-free interest rate	**1.10%**	2.25%	2.39%
Expected average option term	**7.5 years**	8.8 years	9.6 years

Protiva Option Plan

On May 30, 2008, as a condition of the acquisition of Protiva Biotherapeutics Inc., a total of 350,457 common shares of the Company were reserved for the exercise of 519,073 Protiva share options ("Protiva Options"). The Protiva Options have an exercise price of C$0.30, were fully vested and exercisable as of May 30, 2008. As at December 31, 2015, the outstanding options expire at various dates from April 3, 2017 to March 1, 2018 and upon exercise each option will be converted into approximately 0.6752 shares of the Company (the same ratio at which Protiva common shares were exchanged for Company common shares at completion of the acquisition of Protiva). The Protiva Options are not part of the Arbutus Plans and the Company is not permitted to grant any further Protiva Options.

The following table sets forth outstanding options under the Protiva Option Plan:

	Number of Protiva Options	Equivalent number of Company common shares	Weighted average exercise price (C$)	Weighted average exercise price (US$)
Balance, December 31, 2012	475,885	321,299	$ 0.30	0.30
Options exercised	(2,000)	(1,350)	0.30	0.29
Options forfeited, canceled or expired	(1,000)	(675)	0.30	0.29
Balance, December 31, 2013	472,885	319,274	0.30	0.29
Options exercised	(38,145)	(25,754)	0.30	0.27
Options forfeited, canceled or expired	(1,000)	(675)	0.30	0.27
Balance, December 31, 2014	433,740	292,845	0.30	0.27
Options exercised	(358,675)	(242,164)	0.30	0.23
Options forfeited, canceled or expired	(8,065)	(5,445)	0.30	0.23
Balance, December 31, 2015	67,000	45,236	$ 0.30	$ 0.22

The weighted average remaining contractual life of exercisable Protiva Options as at December 31, 2015 was 1.8 years.

The aggregate intrinsic value of Protiva Options outstanding at December 31, 2015 was $187,000. The intrinsic value of Protiva Options exercised in the year ended December 31, 2015 was $1,249,000 (2014 - $378,000; 2013 -$8,000).

OnCore Option Plan

As described in note 3 above, as at the acquisition date, the Company reserved 184,332 shares for the future exercise of OnCore (Arbutus Inc.) stock options. The total fair value of OnCore stock options at the date of acquisition has been determined to be $3,287,000, using the Black-Scholes pricing model with an assumed risk-free interest rate of 0.97%, volatility of 78%, a zero dividend yield and an expected life of 8 years, which are consistent with the assumption inputs used by the Company to determine the fair value of its options. Of the total fair value, $1,127,000 has been attributed as pre-combination service and included as part of the total acquisition consideration. The post-combination attribution of $2,160,000 will be recognized as compensation expense over the vesting period of the stock options through to December 2018.

Following the merger, the Company is not permitted to grant any further options under the OnCore Option Plan. The Company has included $463,000 of compensation expense related to the vesting of Arbutus Inc. stock options from the acquisition date through to December 31, 2015, which includes an estimated forfeiture rate consistent with the Company's forfeiture estimate under the Arbutus Plans.

The following table sets forth outstanding options under the OnCore Option Plan:

	Number of OnCore Options	Equivalent number of Company common shares	Weighted average exercise price (US$)
Balance, March 4, 2015	183,040	184,332	$ 0.57
Options exercised	—	—	N/A
Options forfeited, canceled or expired	—	—	N/A
Balance, December 31, 2015	183,040	184,332	$ 0.57

At December 31, 2015, there were 86,658 OnCore options (87,269 Arbutus equivalent) exercisable with a weighted average exercise price of $0.57. The weighted average remaining contractual life of exercisable options as at December 31, 2015 was 8.9 years. The aggregate intrinsic value of in-the-money options exercisable at December 31, 2015 was $337,000.

A summary of the OnCore Option Plan's non-vested stock option activity and related information for the period from acquisition to December 31, 2015 is as follows:

	Number of OnCore Options	Equivalent number of Company common shares	Weighted average fair value (US$)
Non-vested at March 4, 2015	128,510	129,417	$ 16.42
Options vested	(32,128)	(32,354)	16.42
Non-vested options forfeited	—	—	N/A
Non-vested at December 31, 2015	96,382	97,063	$ 16.42

The weighted average remaining contractual life for options expected to vest at December 31, 2015 was 8.9 years and the weighted average exercise price for these options was $0.57 per share.

The aggregate intrinsic value of options expected to vest as at December 31, 2015 was $695,000.

The total fair value of options that vested during the period from acquisition on March 4, 2015 to December 31, 2015 was $620,000.

Stock-based compensation expense

Total stock-based compensation expense is comprised of: (1) the vesting options awarded to employees under the Arbutus and OnCore option plans calculated in accordance with the fair value method as described above; and (2) the expiration of repurchase rights related to the post-combination service portion of the total fair value of shares issued to Arbutus Inc.'s employees as described in note 3 above.

The total stock-based compensation has been recorded in the consolidated statement of operations and comprehensive income (loss) as follows:

	Year ended December 31		
	2015	2014	2013
Research, development, collaborations and contracts expenses	**$ 7,868**	$ 2,343	$ 622
General and administrative expenses	**14,225**	940	281
Total	**$ 22,093**	$ 3,283	$ 903

At December 31, 2015, there remains $11,972,000 of unearned compensation expense related to unvested employee stock options to be recognized as expense over a weighted-average period of approximately 16 months, as well as a remaining $35,967,000 unearned compensation expense related to unexpired repurchase rights on shares issued to Arbutus Inc. employees to be recognized as expense over a weighted average period of approximately 12 months.

Awards outstanding and available for issuance

Combining all of the Company’s share-based compensation plans, at December 31, 2015, the Company has 2,519,831 options outstanding and a further 3,135,980 Awards available for issuance.

7. Government grants and refundable investment tax credits

Government grants and refundable investment tax credits have been recorded as a reduction in research and development expenses.

(a) Government grants

On December 22, 2014, the Company entered into a Manufacturing and Clinical Trial Agreement with the University of Oxford to provide the new TKM-Ebola-Guinea therapeutic product for clinical studies in West Africa. The University of Oxford is the representative of the International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC), who conducted clinical studies of TKM-Ebola-Guinea in Ebola virus infected patients, with funding provided by the Wellcome Trust. In January 2015, the Company received $1,098,000 from ISARIC for materials manufactured and used in the March 2015 TKM-Ebola-Guinea Phase II single arm trial conducted in Sierra Leone. In June 2015, the Company announced closing of the enrollment for the trial as it reached a futility boundary, which was a predefined statistical endpoint. No further funding is expected under this grant.

Government grants for the year ended December 31, 2015 include $1,245,000 in funding from the U.S. National Institutes of Health (2014 - $172,000).

(b) Refundable investment tax credits

The Company's estimated claim for refundable Scientific Research and Experimental Development investment tax credits for the year ended December 31, 2015 is $196,000 (2014 - $52,000).

8. Income taxes

Income tax (recovery) expense varies from the amounts that would be computed by applying the combined Canadian federal and provincial income tax rate of 26% (2014 - 26%; 2013 – 26%) to the loss before income taxes as shown in the following tables:

	Year ended December 31,		
	2015	2014	2013
Computed taxes (recoveries) at Canadian federal and provincial tax rates	**$ (20,100)**	$ (10,097)	$ (3,486)
Differences due to change in enacted tax rates	**—**	—	(9)
Permanent and other differences	**8,113**	3,498	1,088
Change in valuation allowance - other	**3,676**	6,599	2,407
Difference due to income taxed at foreign rates	**(7,874)**	—	—
Deferred income tax recovery	**$ (16,185)**	**$ —**	$ —

As at December 31, 2015, the Company has investment tax credits available to reduce Canadian federal income taxes of $7,969,000 (December 31, 2014 - $7,866,000) and provincial income taxes of $3,869,000 (December 31, 2014 - $3,401,000), expiring between 2027 and 2035. In addition, the Company has research and development credits of $483,000 available for indefinite carry-forward, which can be used to reduce future taxable income in the U.S.

At December 31, 2015, the Company has scientific research and experimental development expenditures of $51,823,000 (December 31, 2014 - $49,907,000) available for indefinite carry-forward and $24,745,000 (December 31, 2014 - $25,301,000) of net operating losses due to expire between 2027 and 2035 and which can be used to offset future taxable income in Canada.

As at December 31, 2015, the Company has $17,235,000 of net operating losses due to expire between 2030 and 2035, which can be used to offset future taxable income in the U.S. Future use of a portion of the U.S. loss carry-forwards is subject to limitations under the Internal Revenue Code Section 382. As a result of ownership changes occurred on October 1, 2014 and March 4, 2015, the Company's ability to use these losses may be limited. Losses incurred to date may be further limited if a subsequent change in control occurs.

On November 23, 2011, the Company was registered as a corporation under the Business Activity Act in the province of British Columbia. Under this program, provincial corporation tax charged on foreign income earned from the Company's patents will be eligible for a 75% tax refund up to a maximum of C$8,000,000. Significant components of the Company's deferred tax assets are shown below:

	As at December 31,	
	2015	**2014**
Deferred tax assets:		
Non-capital loss carryforwards	**$ 13,932**	$ 6,578
Research and development deductions	**13,474**	14,006
Book amortization in excess of tax	**2,142**	2,745
Share issue costs	**777**	1,195
Revenue recognized for tax purposes in excess of revenue recognized for accounting purposes	**281**	4,086
Tax value in excess of accounting value in lease inducements	**77**	65
Federal investment tax credits	**6,303**	5,821
Provincial investment tax credits	**3,879**	3,322
In-process research and development	**(146,324)**	—
Upfront license fees	**629**	—
Total deferred tax assets	**(104,830)**	37,818
Valuation allowance	**(41,494)**	(37,818)
Net deferred tax assets	**$ (146,324)**	$ —

The comparative figures in the above table have been recast to increase the deferred tax assets before valuation allowance by $8,424,000 and the valuation allowance by $8,424,000 as at December 31, 2014 to be consistent with current year's disclosure. The comparative figures in the income tax expense reconciliation table have also been recast to reflect these changes. These adjustments have no impact on the consolidated financial position, consolidated results of operations or the consolidated cash flows.

9. Contingencies and commitments

Property lease

The minimum rent and estimated operating cost commitment, net of lease inducements, is as follows:

Year ended December 31, 2016	$ 1,229,000
Year ended December 31, 2017	938,000
Year ended December 31, 2018	938,000
Year ended December 31, 2019	547,000
	$ 3,652,000

The Company’s lease expense, for the year ended December 31, 2015 of $1,158,000 has been recorded in the consolidated statements of operations and comprehensive loss (2014 of $1,133,000; 2013 -$1,225,000).

Product development partnership with the Canadian Government

The Company entered into a Technology Partnerships Canada (TPC) agreement with the Canadian Federal Government on November 12, 1999. Under this agreement, TPC agreed to fund 27% of the costs incurred by the Company, prior to March 31, 2004, in the development of certain oligonucleotide product candidates up to a maximum contribution from TPC of $7,179,000 (C$9,330,000). As at December 31, 2015, a cumulative contribution of $2,675,000 (C$3,702,000) had been received and the Company does not expect any further funding under this agreement. In return for the funding provided by TPC, the Company agreed to pay royalties on the share of future licensing and product revenue, if any, that is received by the Company on certain non-siRNA oligonucleotide product candidates covered by the funding under the agreement. These royalties are payable until a certain cumulative payment amount is achieved or until a pre-specified date. In addition, until a cumulative amount equal to the funding actually received under the agreement has been paid to TPC, the Company agreed to pay 2.5% royalties on any royalties the Company receives for Marqibo. For the year ended December 31, 2015, the Company earned royalties on Marqibo sales in the amount of $240,000 (see note 4(f)), resulting in $6,000 recorded by the Company as royalty payable to TPC (2014 - $190,000; 2013 -$1,000). The cumulative amount paid or accrued up to December 31, 2015 was $12,000, resulting in the contingent amount due to TPC being $2,664,000 (C$3,687,000).

License agreement with Marina Biotech, Inc. (“Marina”)

On November 29, 2012 the Company announced a worldwide, non-exclusive license to a novel RNAi payload technology called Unlocked Nucleobase Analog (“UNA”) from Marina for the development of RNAi therapeutics.

UNA technology can be used in the development of RNAi therapeutics, which treat disease by silencing specific disease causing genes. UNAs can be incorporated into RNAi drugs and have the potential to improve them by increasing their stability and reducing off-target effects.

Under the license agreement the Company paid Marina an upfront fee of $300,000. A further license payment of $200,000 was paid in 2013 and the Company will make milestone payments of up to $3,250,000 and royalties on each product developed by the Company that uses Marina’s UNA technology. The payments to Marina are expensed to research, development, collaborations and contracts expense.

Effective August 9, 2013, Marina’s UNA technology was acquired by Arcturus Therapeutics, Inc. (“Arcturus”) and the UNA license agreement between the Company and Marina was assigned to Arcturus. The terms of the license are otherwise unchanged. On December 22, 2014, the Company received clearance from Health Canada to conduct a Phase I Clinical Study with TKM-HBV, which utilizes Arcturus’ UNA technology. The dosing of first subject in the Phase I clinical trial of TKM-HBV occurred in January 2015, which resulted in a milestone payment of $250,000 to Arcturus.

Arbitration with the University of British Columbia (“UBC”)

Certain early work on lipid nanoparticle delivery systems and related inventions was undertaken at UBC. These inventions are licensed to the Company by UBC under a license agreement, initially entered in 1998 as amended in 2001, 2006 and 2007. The Company has granted sublicenses under the UBC license to Alnylam as well as to Talon. Alnylam has in turn sublicensed back to the Company under the licensed UBC patents for discovery, development and commercialization of RNAi products. In 2009, the Company entered into a supplemental agreement with UBC, Alnylam and Acuitas, in relation to a separate research collaboration to be conducted among UBC, Alnylam and Acuitas to which the Company has license rights. The settlement agreement signed in late 2012 to resolve the litigation among the Company, Alnylam, and Acuitas, provided for the effective termination of all obligations under such supplemental agreement as between and among all litigants (see note 4(c)).

On November 10, 2014, UBC filed a notice of arbitration against the Company and on January 16, 2015, filed a Statement of Claim, which alleges entitlement to $3,500,000 in allegedly unpaid royalties based on publicly available information, and an unspecified amount based on non-public information. UBC also seeks interest and costs, including legal fees. The Company is currently disputing UBC’s allegations, and no dates have been scheduled for this arbitration. However, the Company notes that arbitration is subject to inherent uncertainty and an arbitrator could rule against the Company. The Company has not recorded an estimate of the possible loss associated with this arbitration, due to the uncertainties related to both the likelihood and amount of any possible loss or range of loss. However, the defense of arbitration and related matters are costly and may divert the attention of the Company’s management and other resources that would otherwise be engaged in other activities. Costs related to the arbitration have been recorded by the Company as incurred.

Contingent consideration from OnCore acquisition of Enantigen and License Agreements between Enantigen and Blumberg and Drexel

In October 2014, OnCore acquired all of the outstanding shares of Enantigen pursuant to a stock purchase agreement. Through this transaction, OnCore acquired a HBV surface antigen secretion inhibitor program and a capsid assembly inhibitor program, each of which are now assets of Arbutus, following the Company’s merger with Arbutus Inc. - see note 3.

Under the stock purchase agreement, OnCore agreed to pay up to a total of $21,000,000 to Enantigen’s selling stockholders upon the achievement of certain triggering events related to Enantigen’s two programs in pre-clinical development related to HBV therapies. The first triggering event is the enrollment of first patient in Phase 1b clinical trial in HBV patients, which the Company does not expect to occur in the next twelve-month period.

The regulatory, development and sales milestone payments have an estimated fair value of approximately $6,727,000 as at the date of acquisition of Arbutus Inc., and have been treated as contingent consideration payable in the purchase price allocation (note 3), based on information available at the date of acquisition, using a probability weighted assessment of the likelihood the milestones would be met and the estimated timing of such payments, and then the potential contingent payments were discounted to their present value using a probability adjusted discount rate that reflects the early stage nature of the development program, time to complete the program development, and overall biotech indices.

Contingent consideration is considered as a financial liability, and measured at its fair value at each reporting period with any changes in fair value from the previous reporting period recorded in the statement of operations and comprehensive loss. For the period ended December 31, 2015, the Company performed an evaluation of the fair value of the contingent consideration using the probability weighted assessment of likelihood of milestone payments as described above. The Company determined the fair value of the contingent consideration has increased by $770,000 to $7,497,000 and the increase in fair value has been recorded in other losses in the statement of operations and comprehensive loss for the year-ended December 31, 2015.

Drexel and Blumberg

In February 2014, OnCore entered into a license agreement with Blumberg and Drexel that granted an exclusive, worldwide, sub-licensable license to three different compound series: cccDNA inhibitors, capsid assembly inhibitors and HCC inhibitors.

In partial consideration for this license, OnCore paid a license initiation fee of $150,000 and issued warrants to Blumberg and Drexel. Under this license agreement, OnCore also agreed to pay up to $3,500,000 in development and regulatory milestones per licensed compound series, up to $92,500,000 in sales performance milestones per licensed product, and royalties in the mid-single digits based upon the proportionate net sales of licensed products in any commercialized combination. The Company is obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from the sub-licensees, subject to customary exclusions.

In November 2014, OnCore entered into an additional license agreement with Blumberg and Drexel pursuant to which it received an exclusive, worldwide, sub-licensable license under specified patents and know-how controlled by Blumberg and Drexel covering epigenetic modifiers of cccDNA and STING agonists. In consideration for these exclusive licenses, OnCore made an upfront payment of $50,000. Under this agreement, the Company will be required to pay up to $1,000,000 for each licensed product upon the achievement of a specified regulatory milestone and a low single digit royalty, based upon the proportionate net sales of compounds covered by this intellectual property in any commercialized combination. The Company is also obligated to pay Blumberg and Drexel a double digit percentage of all amounts received from its sub-licensees, subject to exclusions.

Research Collaboration and Funding Agreement with Blumberg

In October 2014, Arbutus Inc. entered into a research collaboration and funding agreement with Blumberg under which the Company will provide $1,000,000 per year of research funding for three years, renewable at the Company’s option for an additional three years, for Blumberg to conduct research projects in HBV and liver cancer pursuant to a research plan to be agreed upon by the parties. Blumberg has exclusivity obligations to Arbutus with respect to HBV research funded under the agreement. In addition, the Company has the right to match any third party offer to fund HBV research that falls outside the scope of the research being funded under the agreement. Blumberg has granted the Company the right to obtain an exclusive, royalty bearing, worldwide license to any intellectual property generated by any funded research project. If the Company elects to exercise its right to obtain such a license, the Company will have a specified period of time to negotiate and enter into a mutually agreeable license agreement with Blumberg. This license agreement will include the following pre negotiated upfront, milestone and royalty payments: an upfront payment in the amount of $100,000; up to $8,100,000 upon the achievement of specified development and regulatory milestones; up to $92,500,000 upon the achievement of specified commercialization milestones; and royalties at a low single to mid-single digit rates based upon the proportionate net sales of licensed products from any commercialized combination.

NeuroVive Pharmaceutical AB (“NeuroVive”)

In September 2014, Arbutus Inc. entered into a license agreement with NeuroVive that granted them an exclusive, worldwide, sub-licensable license to develop, manufacture and commercialize, for the treatment of HBV, oral dosage form sanglifehrin based cyclophilin inhibitors (including OCB-030). Under this license agreement, the Company has been granted a non-exclusive, royalty free right and license and right of reference to NeuroVive’s relevant regulatory approvals and filings for the sole purpose of developing, manufacturing and commercializing licensed products for the treatment of HBV. Under this license agreement, the Company has (1) an option to expand its exclusive license to include treatment of viral diseases other than HBV and (2) an option, exercisable upon specified conditions, to expand its exclusive license to include development, manufacture and commercialization of non-oral variations of licensed products for treatment of viral diseases other than HBV. NeuroVive retains all rights with respect to development, manufacture and commercialization of licensed products and non-oral variations of licensed products for all indications (other than HBV) for which the Company has not exercised its option.

In partial consideration for this license, Arbutus Inc. paid NeuroVive a license fee of $1,000,000. As described in note 3 above, Arbutus Inc. became our wholly owned subsidiary by way of a Merger Agreement, which does not trigger any milestone payments. We have conducted significant research and analysis on the NeuroVive Product, OCB-030. Based on this research and analysis, we have decided to discontinue the OCB-030 development program. Otherwise, the license agreement and ongoing relationship with NeuroVive remains in full effect.

Cytos Biotechnology Ltd ("Cytos")

On December 30, 2014, Arbutus Inc. entered into an exclusive, worldwide, sub-licensable (subject to certain restrictions with respect to licensed viral infections other than hepatitis) license to six different series of compounds. The licensed compounds are Qbeta-derived virus-like particles that encapsulate TLR9, TLR7 or RIG-I agonists and may or may not be conjugated with antigens from the hepatitis virus or other licensed viruses. The Company has an option to expand this license to include additional viral infections other than influenza and Cytos will retain all rights for influenza, all non-viral infections, and all viral infections (other than hepatitis) for which it has not exercised its option.

In partial consideration for this license, the Company is obligated to pay Cytos up to a total of $67,000,000 for each of the six licensed compound series upon the achievement of specified development and regulatory milestones; for hepatitis and each additional licensed viral infection, up to a total of $110,000,000 upon the achievement of specified sales performance milestones; and tiered royalty payments in the high-single to low-double digits, based upon the proportionate net sales of licensed products in any commercialized combination.

10. Concentrations of business risk

Credit risk

Credit risk is defined by the Company as an unexpected loss in cash and earnings if a collaborative partner is unable to pay its obligations in due time. The Company's main source of credit risk is related to its accounts receivable balance which principally represents temporary financing provided to collaborative partners in the normal course of operations.

The Company does not currently maintain a provision for bad debts as the majority of accounts receivable are from collaborative partners or government agencies and are considered low risk.

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk at December 31, 2015 was the accounts receivable balance of $1,008,000 (2014 - $1,903,000).

All accounts receivable balances were current as at December 31, 2015 and December 31, 2014.

Significant collaborators and customers risk

We depend on a small number of collaborators and customers for a significant portion of our revenues (see note 4).

Liquidity Risk

Liquidity risk results from the Company's potential inability to meet its financial liabilities, for example payments to suppliers. The Company ensures sufficient liquidity through the management of net working capital and cash balances.

The Company's liquidity risk is primarily attributable to its cash and cash equivalents, and short-term investments. The Company limits exposure to liquidity risk on its liquid assets through maintaining its cash and cash equivalent, and short-term investments with high-credit quality financial institutions. Due to the nature of these investments, the funds are available on demand to provide optimal financial flexibility.

The Company believes that its current sources of liquidity are sufficient to cover its likely applicable short term cash obligations. The Company's financial obligations include accounts payable and accrued liabilities which generally fall due within 45 days. The net liquidity of the Company is considered to be the cash and cash equivalents and short-term investments less accounts payable and accrued liabilities.

	December 31, 2015	December 31, 2014
Cash, cash equivalents and short-term investments	**$ 181,304**	$ 112,161
Less: Accounts payable and accrued liabilities	**(8,827)**	(9,328)
	$ 172,477	$ 102,833

Foreign currency risk

The results of the Company's operations are subject to foreign currency transaction and translation risk as the Company's revenues and expenses are denominated in both Canadian and US dollars. The fluctuation of the US dollar in relation to the Canadian dollar will consequently have an impact upon the Company's reported income or loss and may also affect the value of the Company's assets, liabilities, and the amount of shareholders' equity both as recorded in the Company's financial statements, in the Canadian functional currency, and as reported, for presentation purposes, in the US dollar.

The Company manages its US dollar exchange rate risk by, whenever possible, using cash received from US dollar revenues and financing to pay US dollar expenses. Prior to the financing in October 2013 (note 6(a)), which was denominated in US dollars, the Company's policy was to convert all but a working capital level of US dollars into Canadian dollars. Given the Company's increasing level of US dollar expenses, its policy is now to maintain US and Canadian dollar cash and investment and short-term investment balances based on long term forecasts of currency needs thereby creating a natural currency hedge.

The Company has not entered into any agreements or purchased any instruments to hedge possible currency risks. The Company's exposure to US dollar currency expressed in Canadian dollars was as follows:

(in C$)	December 31, 2015	December 31, 2014
Cash and cash equivalents and short-term investments	**$ 213,419**	$ 75,224
Accounts receivable	**1,071**	1,942
Accrued revenue	**178**	624
Accounts payable and accrued liabilities	**(8,061)**	(4,494)
	$ 206,607	$ 73,296

An analysis of the Company's sensitivity to foreign currency exchange rate movements is not provided in these financial statements as the Company's US dollar cash holdings and expected US dollar revenues are sufficient to cover US dollar expenses for the foreseeable future.

11. Supplementary information

Accounts payable and accrued liabilities is comprised of the following:

	December 31, 2015	December 31, 2014
Trade accounts payable	**$ 2,610**	$ 2,044
Research and development accruals	**2,358**	2,391
License fee accruals	**—**	250
Professional fee accruals	**640**	1,294
Deferred lease inducements	**297**	250
Payroll accruals	**2,331**	2,873
Other accrued liabilities	**591**	226
	$ 8,827	$ 9,328

12. Interim financial data (unaudited)

	2015				
	Q1	Q2	Q3	Q4	**Total**
Revenue	$ 4,682	$ 3,440	$ 4,065	$ 12,686	**$ 24,873**
Loss from operations	(18,006)	(14,420)	(58,138)	(11,758)	**(102,322)**
Net loss	$ (11,989)	$ (14,886)	$ (28,982)	$ (5,264)	**$ (61,121)**
Basic and diluted net loss per share	$ (0.40)	$ (0.27)	$ (0.57)	$ (0.10)	**$ (1.34)**

	2014				
	Q1	Q2	Q3	Q4	**Total**
Revenue	$ 4,430	$ 1,811	$ 4,362	$ 4,350	**$ 14,953**
Loss from operations	(5,958)	(9,423)	(6,844)	(10,747)	**(33,434)**
Net loss	$ (17,984)	$ (6,081)	$ (8,604)	$ (6,168)	**$ (38,837)**
Basic and diluted net loss per share	$ (0.91)	$ (0.28)	$ (0.39)	$ (0.27)	**$ (1.80)**

13. Subsequent events

(a) Protiva USA Reorganization

Effective January 1, 2016, the Company undertook a corporate reorganization merging Protiva USA into Arbutus Inc., which acquired Protiva USA's assets and assumed Protiva USA's liabilities in exchange for Arbutus Inc. shares. The reorganization did not result in any adverse Canadian and U.S. tax consequences.

(b) Monsanto Option Exercise

On March 4, 2016, Monsanto exercised its option to acquire 100% of the outstanding shares of Protiva Agricultural Development Company Inc. (PADCo), pursuant under its Option Agreement with the Company. Monsanto will pay the Company $1,000,000 in exercise fee, which the Company will record in the statement of operations and comprehensive loss for the period ended March 31, 2016.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

As of the end of our fiscal year ended December 31, 2015, an evaluation of the effectiveness of our “disclosure controls and procedures” (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934) was carried out by our management, with the participation of our Chief Executive Officer (CEO) and Chief Financial Officer (CFO). Based upon that evaluation, the CEO and CFO have concluded that as of the end of that fiscal year, our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission (the “Commission”) rules and forms and (ii) accumulated and communicated to the management of the registrant, including the CEO and CFO, to allow timely decisions regarding required disclosure.

It should be noted that while the CEO and CFO believe that our disclosure controls and procedures provide a reasonable level of assurance that they are effective, they do not expect that our disclosure controls and procedures or internal control over financial reporting will prevent all errors and fraud. A control system, no matter how well conceived or operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

Management's Annual Report on internal control over financial reporting

Management is responsible for establishing and maintaining adequate internal control over our financial reporting, as such term is defined in Rule 13a-15(f) of the Securities Exchange Act of 1934. Our internal control system was designed to provide reasonable assurance that all transactions are accurately recorded, that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our assets are safeguarded.

Management has assessed the effectiveness of our internal control over financial reporting as at December 31, 2015. In making its assessment, management used the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework in Internal Control – Integrated Framework (2013) to evaluate the effectiveness of our internal control over financial reporting. Based on this assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2015.

Attestation report of the registered public accounting firm

The Company is an "accelerated filer" within the meaning of Rule 12b-2 under the Exchange Act. The independent registered public accounting firm's report on the effectiveness of our internal control over financial reporting is included in Item 8 of this annual report on Form 10-K and are incorporated herein by reference.

Changes in internal control over financial reporting

During the period covered by the annual report, being the fiscal year ended December 31, 2015, changes were made to our internal control over financial reporting in order to integrate Arbutus Inc.'s internal control over financial reporting with our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated herein by reference to the information contained under the sections captioned “Proposal One — Election of Directors,” “Section 16(a) Beneficial Ownership Reporting Compliance” and “Corporate Governance” of the Proxy Statement. The information required by this item relating to executive officers is included in Part I, Item 1, “— Business-Executive Officers of the Registrant,” of this annual report on Form 10-K.

Item 11. Executive Compensation

The information required by this item is incorporated herein by reference to the information contained under the sections captioned “Information about Executive Officer and Director Compensation,” “Compensation Committee Interlocks and Insider Participation,” “Employment Arrangements” and “Compensation Committee Report” of the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated herein by reference to the information contained under the sections captioned “Security Ownership of Certain Beneficial Owners and Management,” “Information about Executive Officer and Director Compensation” and “Securities Authorized for Issuance Under Equity Compensation Plans” of the Proxy Statement.

Item 13. Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated herein by reference to the information contained under the sections captioned “Corporate Governance,” “Employment Arrangements” and “Certain Relationships and Related Transactions” of the Proxy Statement.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated herein by reference to the information contained under the sections captioned “Corporate Governance,” “Principal Accountant Fees and Services” and “Pre-Approval Policies and Procedures” of the Proxy Statement.

PART IV

Item 15. Exhibits and Financial Statement Schedules

Financial Statements

See Index to Consolidated Financial Statements under Item 8 of Part II.

Financial Statement Schedules

None

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on March 9, 2016.

ARBUTUS BIOPHARMA CORPORATION

By: /s/ Mark Murray
Mark Murray
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on March 9, 2016.

Signatures	Capacity in Which Signed
/s/ Vivek Ramaswamy Vivek Ramaswamy	Director (Chairman)
/s/ Mark Murray Mark Murray	President and Chief Executive Officer and Director (Principal Executive Officer)
/s/ Bruce Cousins Bruce Cousins	Executive Vice President, Finance and Chief Financial Officer (Principal Financial Officer and Accounting Officer)
/s/ Herbert J. Conrad Herbert J. Conrad	Director
/s/ Richard C. Henriques Richard C. Henriques	Director
/s/ Frank Karbe Frank Karbe	Director
/s/ Keith Manchester Keith Manchester	Director
/s/ William T. Symonds William T. Symonds	Chief Development Officer and Director

Exhibit Number	Description
2.1*	Subscription Agreement, between the Company and Alnylam Pharmaceuticals, Inc., dated March 28, 2008 (incorporated herein by reference to Exhibit 2.1 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
2.2*	Subscription Agreement, between the Company and Roche Finance Ltd., dated March 31, 2008 (incorporated herein by reference to Exhibit 2.2 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
2.3*	Agreement and Plan of Merger and Reorganization, dated January 11, 2015, by and among Tekmira Pharmaceuticals Corporation, TKM Acquisition Corporation and OnCore Biopharma, Inc. (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
3.1*	Notice of Articles and Articles of the Company (incorporated herein by reference to Exhibit 1.1 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
3.2*	Amendment to the Articles of the Company dated May 14, 2013 (incorporated herein by reference to Exhibit 3.2 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 28, 2014).
3.3*	Governance Amendment to the Articles of the Company dated March 4, 2015, (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on March 4, 2015).
3.4*	Approval of Quorum Policy of the Company, adopted January 31, 2015 (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed with the SEC on February 5, 2015).
4.1*	Governance Agreement between the Company and Roivant Sciences Ltd., a Bermuda exempted company, dated January 11, 2015 (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
10.1†*	Amendment No. 1 to the Amended and Restated Agreement, between the Company (formerly Inex Pharmaceuticals Corporation) and Hana Biosciences, Inc., effective as of May 27, 2009 (incorporated herein by reference to Exhibit 4.1 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.2†*	Amended and Restated License Agreement, between Inex Pharmaceuticals Corporation and Hana Biosciences, Inc., dated April 30, 2007 (incorporated herein by reference to Exhibit 4.2 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).
10.3†*	Sublicense Agreement, between Inex Pharmaceuticals Corporation and Alnylam Pharmaceuticals, Inc., dated January 8, 2007 (incorporated herein by reference to Exhibit 4.3 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).
10.4†*	Amended and Restated License and Collaboration Agreement, between the Company and Alnylam Pharmaceuticals, Inc., effective as of May 30, 2008 (incorporated herein by reference to Exhibit 4.4 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).
10.5†*	Amended and Restated Cross-License Agreement, between Alnylam Pharmaceuticals, Inc. and Protiva Biotherapeutics Inc., dated May 30, 2008 (incorporated herein by reference to Exhibit 4.5 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).
10.6†*	License Agreement, between Inex Pharmaceuticals and Aradigm Corporation, dated December 8, 2004 (incorporated herein by reference to Exhibit 4.6 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).
10.7†*	Settlement Agreement, between Sirna Therapeutics, Inc. and Merck & Co., Inc. and Protiva Biotherapeutics Inc. and Protiva Biotherapeutics (USA), Inc., effective as of October 9, 2007 (incorporated herein by reference to Exhibit 4.7 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).
10.8†*	Development, Manufacturing and Supply Agreement, between the Company and Alnylam Pharmaceuticals, Inc., dated January 2, 2009 (incorporated herein by reference to Exhibit 4.8 to the Registrant's Amendment No. 1 to Form 20-F for the year ended December 31, 2010 filed with the SEC on January 31, 2012).

10.9†*#	Executive Employment Agreement with Ian Mortimer, dated March 26, 2008 (incorporated herein by reference to Exhibit 4.9 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.10*#	Executive Employment Agreement with Ian MacLachlan, dated May 30, 2008 (incorporated herein by reference to Exhibit 4.10 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.11*#	Executive Employment Agreement with Mark Murray, dated May 30, 2008 (incorporated herein by reference to Exhibit 4.11 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.12*#	Executive Employment Agreement with Peter Lutwyche, dated January 1, 2009 (incorporated herein by reference to Exhibit 4.12 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.13*#	Share Option Plan amended through May 12, 2009 (including form stock option agreements) (incorporated herein by reference to Exhibit 4.13 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.14*	Lease Agreement with Canada Lands Company CLC Limited dated December 15, 1997, as amended (incorporated herein by reference to Exhibit 4.14 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.15*#	Form of Indemnity Agreement (incorporated herein by reference to Exhibit 4.15 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.16*	Award Contract with USASMDC/ARSTRAT effective date July 14, 2010 (incorporated herein by reference to Exhibit 4.16 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.17†*	License Agreement between the University of British Columbia and Inex Pharmaceuticals Corporation executed on July 30, 2001 (incorporated herein by reference to Exhibit 4.17 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.18†*	Amendment Agreement between the University of British Columbia and Inex Pharmaceuticals Corporation dated July 11, 2006 (incorporated herein by reference to Exhibit 4.18 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.19†*	Second Amendment Agreement between the University of British Columbia and Inex Pharmaceuticals Corporation dated January 8, 2007 (incorporated herein by reference to Exhibit 4.19 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.20†*	Consent Agreement of the University of British Columbia to Inex/Alnylam Sublicense Agreement dated January 8, 2007 (incorporated herein by reference to Exhibit 4.20 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.21†*	Amendment No. 2 to the Amended and Restated Agreement, between the Company (formerly Inex Pharmaceuticals Corporation) and Hana Biosciences, Inc., effective as of September 20, 2010 (incorporated herein by reference to Exhibit 4.21 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 filed with the SEC on June 3, 2011).
10.22†*	License and Collaboration Agreement between the Company and Halo-Bio RNAi Therapeutics, Inc. as of August 24, 2011 (incorporated herein by reference to Exhibit 4.22 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2011 filed with the SEC on March 27, 2012).
10.23*	Loan Agreement with Silicon Valley Bank dated as of December 21, 2011 (incorporated herein by reference to Exhibit 4.23 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2011 filed with the SEC on March 27, 2012).
10.24*#	Employment Agreement with Paul Brennan dated August 24, 2010 (incorporated herein by reference to Exhibit 4.24 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2011 filed with the SEC on March 27, 2012).
10.25*#	Tekmira 2011 Omnibus Share Compensation Plan approved by shareholders on June 22, 2011 (incorporated herein by reference to Exhibit 4.25 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2011 filed with the SEC on March 27, 2012).

10.26†*	Settlement Agreement and General Release, by and among Tekmira Pharmaceuticals Corporation, Protiva Biotherapeutics Inc., Alnylam Pharmaceuticals, Inc., and AlCana Technologies, Inc., dated November 12, 2012 (incorporated herein by reference to Exhibit 4.26 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2012 filed with the SEC on March 27, 2013).
10.27†*	Cross-License Agreement by and among Alnylam Pharmaceuticals, Inc., Tekmira Pharmaceuticals Corporation and Protiva Biotherapeutics Inc., dated November 12, 2012(incorporated herein by reference to Exhibit 4.27 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2012 filed with the SEC on March 27, 2013).
10.28†*	License Agreement by and among Protiva Biotherapeutics Inc. and Marina Biotech, Inc. dated November 28, 2012 (incorporated herein by reference to Exhibit 4.28 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2012 filed with the SEC on March 27, 2013).
10.29*#	Employment Agreement with Diane Gardiner dated March 1, 2013 (incorporated herein by reference to Exhibit 4.29 to the Registrant's Annual Report on Form 20-F for the year ended December 31, 2012 filed with the SEC on March 27, 2013).
10.30*#	Employment Agreement with Mark Kowalski dated August 12, 2013 (incorporated herein by reference to Exhibit 10.30 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 28, 2014).
10.31*#	Employment Agreement with Bruce Cousins dated October 7, 2013 (incorporated herein by reference to Exhibit 10.31 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 28, 2014).
10.32†*	Services Agreement by and among Protiva Biotherapeutics Inc., Protiva Agricultural Development Company Inc. and Monsanto Company dated January 12, 2014 (incorporated herein by reference to Exhibit 10.32 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 28, 2014).
10.33†*	Option Agreement by and among Tekmira Pharmaceuticals Corporation, Protiva Biotherapeutics Inc., Protiva Agricultural Development Company Inc. and Monsanto Canada Inc. dated January 12, 2014 (incorporated herein by reference to Exhibit 10.33 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 28, 2014).
10.34†*	License and Services Agreement by and among Protiva Biotherapeutics Inc., Protiva Agricultural Development Company Inc. and Tekmira Pharmaceuticals Corporation dated January 12, 2014 (incorporated herein by reference to Exhibit 10.34 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC on March 28, 2014).
10.35*	Forms of Lock-Up Agreement (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
10.36*	Form of Registration Rights Agreement (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
10.37*	Form of Standstill Agreement (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
10.38*	Form of Representation Letter (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
10.39*#	Executive Employment Agreement with Michael Abrams, dated November 14, 2013(incorporated herein by reference to Exhibit 10.39 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.40*#	Executive Employment Agreement with Kirk Rosemark, dated December 8, 2014 (incorporated herein by reference to Exhibit 10.40 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.41*†	License Agreement, between Tekmira Pharmaceuticals and Protiva Biotherapeutics and Dicerna Pharmaceuticals dated November 16, 2014 (incorporated herein by reference to Exhibit 10.41 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.42*†	Manufacturing and Clinical Trial Agreement between Tekmira Pharmaceuticals and Protiva Biotherapeutics and the Chancellor Masters and Scholars of the University of Oxford, dated December 18, 2014 (incorporated herein by reference to Exhibit 10.42 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)

10.43*	Modification Contract P0001, dated July 19, 2010, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.43 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.44*	Modification Contract P0002, dated April 15, 2011, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.44 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.45*	Modification Contract P0003, dated June 13, 2011, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.45 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.46*†	Modification Contract P0004, dated October 3, 2011, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.46 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.47*	Modification Contract P0005, dated December 2, 2011, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.47 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015) (Exhibit 10.16)
10.48*	Modification Contract P0006, dated January 25, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.48 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.49*†	Modification Contract P0007, dated March 5, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.48 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.50*	Modification Contract P0008, dated April 23, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.50 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.51*	Modification Contract P0009, dated June 29, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.51 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.52*	Modification Contract P00010, dated July 16, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.52 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.53*	Modification Contract P00011, dated July 25, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.53 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.54*†	Modification Contract P00012, dated August 2, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.54 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.55*	Modification Contract P00013, dated August 27, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.55 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.56*	Modification Contract P00014, dated August 31, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.56 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.57*	Modification Contract P00015, dated October 1, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.57 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.58*	Modification Contract P00016, dated October 2, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.58 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.59*	Modification Contract P00017, dated October 19, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.59 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.60*	Modification Contract P00018, dated December 31, 2012, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.60 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)

10.61*	Modification Contract P00019, dated January 23, 2013, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.61 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.62 *	Modification Contract P00020, dated February 19, 2013, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.62 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.63 *	Modification Contract P00021, dated March 29, 2013, to Award Contract, dated July 14, 2010 incorporated herein by reference to Exhibit 10.63 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.64*†	Modification Contract P00022, dated April 30, 2013, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.64 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.65*†	Modification Contract P00023, dated May 21, 2013, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.65 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.66 *	Modification Contract P00024, dated June 19, 2013, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.66 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.67*†	Modification Contract P00025, dated April 22, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.67 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.68*†	Modification Contract P00026, dated July 25, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.68 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.69*	Modification Contract P00027, dated July 25, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.69 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.70 *†	Modification Contract P00028, dated September 5, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.70 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.71 *	Modification Contract P00029, dated September 30, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.71 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.72*†	Modification Contract P00030, dated October 31, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.72 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.73*	Modification Contract P00031, dated November 17, 2014, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.73 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.74*†	Modification Contract P00032, dated March 4, 2015, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.74 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.75*†	Modification Contract P00033, dated March 4, 2015, to Award Contract, dated July 14, 2010 (incorporated herein by reference to Exhibit 10.75 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014, filed with the SEC on March 13, 2015)
10.76*	Underwriting Agreement for 3,750,000 Common Shares with Stifel, Nicolaus & Company, dated October 17, 2013
10.77*	Underwriting Agreement for 2,125,000 Common Shares with Leerink Partners LLC, dated March 14, 2014
10.78**#	Executive Employment Agreement Elizabeth Howard, dated March 7, 2016
10.79**††	Amended and Restated Option Agreement by and among Arbutus Biopharma Corporation, Protiva Biotherapeutics Inc., Protiva Agricultural Development Company Inc. and Monsanto Canada Inc., dated March 4, 2016

10.80**††	Amended and Restated License and Services Agreement by and among Protiva Biotherapeutics Inc., Protiva Agricultural Development Company Inc. and Arbutus Biopharma Corporation, dated March 4, 2016
10.81**	First Amendment to the Protiva-Monsanto Services Agreement by and among Protiva Biotherapeutics Inc., Protiva Agricultural Development Company Inc. and Monsanto Company, dated March 4, 2016
21.1**	List of Subsidiaries
23.1**	Consent of KPMG LLP, an Independent Registered Public Accounting Firm
31.1**	Certification of Chief Executive Officer pursuant to Rule 13a-14 or 15d-14 of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2**	Certification of Chief Financial Officer pursuant to Rule 13a-14 or 15d-14 of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema Document
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document

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*	Previously filed
**	Filed herewith
†	Confidential treatment granted as to portions of this exhibit.
††	Confidential treatment has been requested as to portions of this exhibit.
#	Management Contract

EXECUTIVE EMPLOYMENT AGREEMENT

This Executive Employment Agreement ("**Agreement**") is made effective as of February 25, 2016 by and between Arbutus Biopharma, Inc., a Delaware corporation (the "**Company**"), and Elizabeth A. Howard, Ph.D. (the "**Executive**") (together the "**Parties**"), and shall become effective upon Executive's commencement of employment, which is expected to commence on March 7, 2016 (the "**Effective Date**"). The Company and Executive agree that in the event the Executive has not commenced employment with the Company as of April 1, 2016 (or such later date as agreed by each of the Company and Executive in writing) then this Agreement shall be void and of no further effect.

RECITALS

WHEREAS, the Company and Executive desire to enter into this Agreement to set forth the terms of Executive's employment with the Company, as of the Effective Date.

THEREFORE, the Parties agree and intend to be bound as follows:

Section 1. Term. The Company shall employ Executive, and Executive hereby accepts employment with the Company, upon the terms and conditions set forth in this Agreement for the period beginning on the Effective Date and ending as provided in Section 5 hereof.

Section 2. Position and Duties. The Executive will serve as Executive Vice-President and General Counsel of the Company, and will have powers and duties consistent with Executive's position and as outlined on Exhibit B attached hereto and such other powers and duties consistent with such position as may from time to time be prescribed by the President and Chief Executive Officer of the Company, subject to the power and authority of the Company's President and Chief Executive Officer to expand or limit such duties, responsibilities, functions and powers. Any increase or reduction in the Executive's duties, responsibilities, functions or powers hereunder shall not operate to change or modify the compensation or severance, if applicable, to be paid by the Company to the Executive. As the Executive Vice President and General Counsel of the Company, the Executive shall devote her full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may manage her personal investments or engage charitable or other community activities as long as those services and activities do not interfere with the Executive's performance of her duties to the Company.

Section 3. Compensation and Related Matters.Base Salary. The Executive's base salary will be $330,000 per year, less withholdings and payable in accordance with the Company's normal payroll practices. The Executive's base salary will be reviewed annually by the Chief Executive Officer of the Company and is subject to increase but not decrease except for an across-the-board salary reduction affecting all or substantially all senior executives of the Company. The base salary in effect at any given time is referred to as "**Base Salary**" and this Agreement need not be modified to reflect a change in Base Salary. The Base Salary is subject to withholding and payable in a manner that is consistent with the Company's usual payroll practices for senior executives.

(a) Bonus. The Executive is eligible to be considered for an annual discretionary target bonus of up to 40% of Base Salary, which will be subject to the terms of the bonus plan and the approval of the Company's Board of Directors (the "**Board**"), in its sole discretion, on an annual basis.

(b) Expenses. The Executive is entitled to receive prompt reimbursement for all reasonable expenses incurred by her in performing services under this Agreement, in accordance with the policies and procedures then in effect and established by the Company for its senior executives.

(c) Other Benefits. The Executive is entitled to participate in or receive benefits under the Company's employee benefit plans as they may be adopted and amended from time to time, subject to the terms and conditions of those employee benefit plans.

(d) Equity Compensation. Subject to the discretionary approval of the board of directors of Arbutus Biopharma Corporation, the parent of the Company (the "**Parent**") and in accordance with the Company and the Parent's annual performance and compensation review process in effect from time to time, the Company's President and CEO will promptly recommend to the Parent's board of directors that Executive receive an option grant in the amount of 120,000 of shares of the Parent, subject to the terms of the Arbutus Biopharma Corporation Share Incentive Plan, or any other similar equity incentive plan in effect from time to time, the terms of a notice of grant and any such other terms as may be required by the Parent's board of directors.

(e) Vacations. The Executive is entitled to paid holidays and vacation days each year, in an amount determined in accordance with and subject to the Company's applicable policies in effect, and as may be amended from time to time. Unless a different number is established by the Board in its sole discretion, the Executive will be entitled to four weeks (20 business days) of vacation per calendar year, which will be pro-rated for any year in which the Executive is only employed with the Company for a portion of the year or for any period in which the Executive is not a full-time employee. Executive may carry over unused and accrued vacation days from year to year, but total vacation accrual will be capped at 34 days. Any accrued but unused vacation days will be paid upon termination.

(f) Paid Sick Time. The Executive will be awarded paid sick days in accordance with Company policy.

Section 4. Non-Competition and Non-Solicitation.

(a) The Executive acknowledges that the Company's industry is highly competitive and employees leaving the employ of the Company have the ability to cause significant damage to the Company's interests if they join a competing business immediately upon leaving the Company.

(b) Definitions:

(i) "Affiliate" means any person or entity directly or indirectly controlling, controlled by or under common control with the Company, where control may be by either management authority or equity interest.

(ii) "Business" or "Business of the Company" means (a) researching, developing, producing and marketing any treatment for hepatitis B virus infection in humans or (b) any other treatment area in which the Company has as active research and development program on the date this Agreement terminates and in connection with which the Executive directly provided service or had direct supervisory responsibilities.

(iii) "Competing Business" means any endeavor, activity or business which is competitive in any material way with the Business of the Company worldwide.

(iv) "Contact" means any person, firm, corporation or other entity that was a client, customer, supplier, principal, shareholder, investor, collaborator, strategic partner, licensee, contact or prospect of the Company (or of its partners, funders or Affiliates) with whom the Executive dealt or otherwise became aware of during the term of her employment in any capacity with the Company.

(c) Reasonableness. The Executive hereby acknowledges and agrees that:

(i) both before and since the Effective Date the Company has operated and competed and will operate and compete worldwide, with respect to the Business of the Company;

(ii) competitors of the Company and the Business are located worldwide;

(iii) in order to protect the Company adequately, any enjoinder of competition would have to apply to any country in which the Company, during the term of the Executive's employment, had material business relationships;

(iv) during the course of the Executive's employment with the Company, on behalf of the Company, the Executive will acquire knowledge of, and will come into contact with, initiate and establish relationships with, both existing and new clients, customers, suppliers, principals, contacts and prospects of the Company, and that in some circumstances the Executive may become the senior or sole representative of the Company dealing with such persons; and

(v) in light of the foregoing, the provisions of this Section 4 are reasonable and necessary for the proper protection of the Business of the Company.

(d) Restrictive Covenant. The Executive hereby acknowledges and agrees that:

(vi) During the term of the Executive's employment, the Executive shall not, without the advance written consent of the Board, such consent to be granted or withheld in the Board's sole discretion, within the geographic scope of any country in which the Company, during the term of the Executive's employment, had material business relationships, carry on or be employed by or engaged in or have any financial or other interest in or be otherwise commercially involved in a Competing Business, directly or indirectly, either individually or in partnership or jointly or in conjunction with any person, firm, corporation or other entity, as principal, agent, consultant, advisor, employee, shareholder or in any manner whatsoever; and

(vii) In the event that Executive relocates to Pennsylvania, Canada, or any other jurisdiction permitting a post-employment restrictive covenant, and Executive's employment is terminated for any reason while employee resides in such jurisdiction, for a period of eighteen (18) months after Executive's termination, Executive shall not, without the advance written consent of the Board, such consent to be granted or withheld in the Board's sole discretion, within the geographic scope of any country in which the Company, during the term of the Executive's employment, had material business relationships, carry on or be employed by or engaged in or have any financial or other interest in or be otherwise commercially involved in a Competing Business, directly or indirectly, either individually or in partnership or jointly or in conjunction with any person, firm, corporation or other entity, as principal, agent, consultant, advisor, employee, shareholder or in any manner whatsoever.

(e) Exception. The Executive shall not be in default of Section 4(d) by virtue of the Executive:

(viii) In the event Section 3(d)(ii) applies, following the termination of employment, holding, strictly for portfolio purposes and as a passive investor, no more than five percent (5%) of the issued and outstanding shares of, or any other interest in, any corporation or other entity which is listed on any recognized stock exchange, that is a Competing Business. In the event Section 3(d)(ii) is inapplicable, this Agreement shall not be deemed to restrict Executive's post-termination investments; or

(ix) during the term of Executive's employment, holding, strictly for portfolio purposes and as a passive investor, issued and outstanding shares of, or any other interest in, any corporation or other entity, the business of which corporation or other entity is in the same Business or Competitive Business as the Company.

If the Executive holds issued and outstanding shares or any other interest in a corporation or other entity pursuant to Section 4(e)(ii) above, and following the acquisition of such shares or other interest the business of the corporation or other entity becomes a Competing Business, the Executive will promptly dispose of the Executive's shares or other interest in such corporation or other entity.

(f) Non-Solicitation. The Executive shall not, during the term of Executive's employment and after Executive's termination thereof for any reason, whether legal or illegal, either individually or in partnership or jointly or in conjunction with any person, firm, corporation or other entity, as principal, agent, consultant, advisor, employee, shareholder or in any manner whatsoever, without the prior written and informed consent of the Company, directly or indirectly:

(x) use any trade secret information of the Company to solicit, induce or encourage any Contact to curtail or cease its relationship with the Company, for any purpose which is competitive with the Business; or

(xi) use any trade secret information of the Company to procure or assist the acceptance of any business from any Contact if such business is competitive with the Business.

(g) The Executive shall not, during the term of Executive's employment and for the a period of eighteen (18) months after the termination thereof for any reason, offer employment or engagement to or solicit the employment or engagement of or otherwise entice away from or solicit, induce or encourage to leave the employment or engagement of the Company, any individual who is employed or engaged by the Company at the time of any such offer, solicitation or enticement whether or not such individual would commit any breach of his or her contract or terms of employment or engagement by leaving the employ or the engagement of the Company, provided that the Executive shall be permitted, solely in a personal capacity, to provide letters of reference for individuals who are employed by the Company.

(h) Validity. The Executive expressly recognizes and acknowledges that it is the intent of the parties that the Executive's activities following the termination of the Executive's employment with the Company be restricted in the manner described in this Section 4, and acknowledges that good, valuable, and sufficient consideration has been provided in exchange for such restrictions. The Executive agrees that should any of the restrictions contained in this Section 4 be found to be unreasonable to any extent by a court of competent jurisdiction adjudicating upon the validity of the restriction, whether as to the scope of the restriction, the area of the restriction or the duration of the restriction, then such restriction shall be reduced to that which is in fact declared reasonable by such court, or a subsequent court of competent jurisdiction, requested to make such a declaration, in order to ensure that the intention of the parties is given the greatest possible effect.

Section 5. Termination. Executive will continue to be employed by the Company as Executive Vice-President and General Counsel until termination pursuant to this Section 5 of this Agreement. Executive's employment by the Company may be terminated without any breach of this Agreement under the following circumstances:

(a) Death. The Executive's employment hereunder terminates upon her death.

(b) Disability. The Company may terminate the Executive's employment if she is disabled (as determined by the Chief Executive Officer) in a manner that renders the Executive unable to perform the essential functions of her then existing position or positions under this Agreement with or without reasonable accommodation for a period of six months or more. Nothing in this Section 1(b) is to be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 et seq., and the Americans with Disabilities Act, 42 U.S.C. §12101 et seq., and the California Fair Employment and Housing Act.

(c) Termination by Company for Cause. For purposes of this Agreement, "For Cause" shall mean: (i) Employee commits a felony , or any crime involving dishonesty, breach of trust, or physical harm to any person; (ii) Employee willfully engages in conduct that is in bad faith and materially injurious to the Company, including but not limited to, misappropriation of trade secrets, fraud or embezzlement; (iii) Employee commits a material breach of this Agreement; (iv) Employee willfully refuses to implement or follow a lawful policy or directive of the Company; or (v) Employee engages in misfeasance or malfeasance demonstrated by a pattern of failure to perform job duties diligently and professionally. The Company may terminate Employee's employment For Cause at any time, without any advance notice. The Company shall pay Employee all compensation to which Employee is entitled up through the date of termination, subject to any other rights or remedies of the Company under law; and thereafter all obligations of the Company under this Agreement shall cease.

(d) Termination by the Company Without Cause or by the Executive for Good Reason. The Company may terminate the Executive's employment under this Agreement at any time without Cause and for any reason, and the Executive may terminate her employment with Good Reason. For purposes of this Agreement, "Good Reason" means the occurrence of any of the following events without the Executive's prior written consent: (i) the failure of the Executive to be appointed to the position set forth in Section 2, if not promptly cured after written notice; or (ii) a reduction by the Company of the Executive's Base Salary or Target Bonus percentage, except for an across-the-board salary reduction affecting all or substantially all senior executives of the Company. For purposes of this Agreement, termination for Good Reason requires Executive to comply with the "Good Reason Process," which means that (i) the Executive reasonably determines in good faith that a Good Reason condition has occurred; (ii) the Executive notifies the Company in writing of the first occurrence of the Good Reason condition within 30 days of the first occurrence of such condition (the "**Good Reason Notice**"); (iii) the Executive cooperates in good faith with the Company's efforts, for a period of not less than 30 days following that notice (the "**Cure Period**") to remedy the condition; (iv) notwithstanding the Company's efforts, the Good Reason condition continues to exist; and (v) the Executive gives a Notice of Termination effective within 10 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason is deemed not to have occurred. Notwithstanding the foregoing, upon the Company's receipt of the Good Reason Notice, the Company may, in its sole discretion, elect to immediately accept a termination by the Executive for Good Reason, waive the requirement for a Cure Period and such termination will not be deemed a termination by the Company for purposes of this Agreement.

Any termination by the Company of the Executive's employment under this Agreement that does not constitute a termination for Cause under Section 5(c) and does not result from the death or disability of the Executive under Section 5(a) or (b) is a termination without Cause.

(e) Termination by the Executive. Executive may terminate employment with the Company without Good Reason at any time for any reason or no reason at all, upon thirty (30) days' advance written notice. The Company shall have the option, in its sole discretion, to make Executive's termination effective or to direct the Executive to perform no work and/or remain off premises at any time prior to the end of such notice period as long as the Company pays Executive all compensation to which Executive is entitled up through the last day of the 30 day notice period.

(f) Notice of Termination. Except for termination as specified in Section 5(a) any termination of the Executive's employment by the Company or any termination of her employment by the Executive must be communicated by written Notice of Termination to the other party. For purposes of this Agreement, a "**Notice of Termination**" means a notice that indicates the specific termination provision in this Agreement that the termination is based upon.

(g) Date of Termination. "**Date of Termination**" means: (i) if the Executive's employment is terminated by her death, the date of her death; (ii) if the Executive's employment is terminated on account of disability under Section 5(b) or by the Company for Cause under Section 5(c), or by the Company without Cause under Section 5(d) on the date the Notice of Termination is given; (iii) if the Executive terminates her employment under Section 5(e) Good Reason, on the date specified by the Executive in the notice (which shall be at least 30 days after the date of the Notice of Termination); and (iv) if the Executive terminates her employment under Section 5(d) with Good Reason, the date of the effectiveness of the Notice of Termination, which shall be during the ten day period following the Cure Period, or, if the Company elects to immediately accept the termination by the Executive for Good Reason, on such date of the Company's acceptance. Notwithstanding the foregoing, if the Executive gives a Good Reason Notice or a Notice of Termination to the Company that takes effect at a future date, the Company may unilaterally accelerate the Date of Termination and that acceleration will not be deemed a termination by the Company for purposes of this Agreement.

Section 6. Compensation Upon Termination.

(a) Termination Generally. If the Executive's employment with the Company is terminated for any reason, the Company shall pay or provide to the Executive (or to her authorized representative or estate), (i) unpaid expense reimbursements; (ii) accrued but unused vacation to the extent payment is required by law or Company policy; (iii) any vested benefits the Executive may have under any employee benefit plan of the Company; (iv) any earned but unpaid base salary and (v) any earned but unpaid annual bonus for the prior fiscal year (collectively the "**Accrued Benefit**") on or before the time required by law, but in no event more than 30 days after the Executive's Date of Termination. The Executive shall not be entitled to any other salary, compensation, bonus (or pro rata share thereof) or benefits from the Company thereafter, except as otherwise specifically provided hereunder, under the Company's employee benefit plans or as expressly required by applicable law.

(b) Termination by the Company Without Cause or by the Executive for Good Reason. If the Executive's employment is terminated by the Company without Cause or by the Executive for Good Reason, then the Company shall pay the Executive her Accrued Benefit as of the Date of Termination. In addition, subject to the Executive providing the Company with a fully effective general release of claims in a form and manner satisfactory to the Company that includes but is not limited to the

terms set forth in the attached Exhibit A (the "**Release**") within the 60-day period following the Date of Termination, the Company shall pay the Executive (i) severance pay in a lump sum in cash in an amount equal to one and one-half times the Executive's Base Salary ("**Severance Amount**"), less withholding, payable within 60 days after the Date of Termination, but if that 60-day period extends over two calendar years, the Company shall make the payment in the second calendar year, (ii) a bonus payment equal to the Target Bonus pro-rated for the portion of the year the Executive was employed by the Company prior to the termination, and (iii) provided that the Executive timely elects COBRA coverage, reimburse the Executive for the COBRA premiums paid by the Executive, if any, for the continuation of coverage under the Executive's then-existing group company health plan that the Executive and her dependents are eligible to receive for the earlier of (x) a period of up to 24 months from the date of the Executive's termination of employment, or (y) until the Executive becomes eligible to receive health insurance benefits under any other employer's group health plan.

Section 7. Change of Control Provisions. The provisions of this Section 7 set forth the Executive's rights and obligations upon the occurrence of a Change of Control of the Company. These provisions are intended to assure and encourage in advance the Executive's continued attention and dedication to her assigned duties and her objectivity during the pendency and after the occurrence of any Change of Control. The provisions of this Section 7 apply in addition to, and/or modify, the provisions of Section 6 regarding severance pay and benefits upon a termination of employment, if applicable, if the termination of employment occurs within 12 months after the occurrence of a Change of Control. These provisions are subject to the Executive providing (and not revoking) the Company with a fully effective Release. These provisions terminate and are of no further force or effect beginning 12 months after the occurrence of such a Change of Control.

(a) Severance following Change of Control. If within 12 months following a Change of Control (i) the Company terminates the Executive's employment with the Company other than for Cause, or (ii) the Executive resigns from her employment with the Company for Good Reason, within the 60-day period following the Date of Termination, then, in lieu of paying the Executive the Severance Amount and in addition to paying the Accrued Benefit, Company shall: (i) pay the Executive severance pay in a lump sum in cash (less applicable withholdings) in an amount equal to two times the Executive's Base Salary ("**Change in Control Severance Amount**"), payable within 60 days after the Date of Termination, but if that 60-day period extends over two calendar years, the Company shall make the payment in the second calendar year; (ii) pay the Executive a bonus payment equal to the Target Bonus pro-rated for that portion of the year that Executive is employed (iii) provided that the Executive timely elects COBRA coverage, reimburse the Executive for the COBRA premiums paid by the Executive, if any, for the continuation of coverage under the Executive's then-existing group company health plan that the Executive and her dependents are eligible to receive for the earlier of (x) a period of up to 24 months from the date of the Executive's termination of employment, or (y) until the Executive becomes eligible to receive health insurance benefits under any other employer's group health plan; and (iv) cause all stock options and other stock-based awards granted after the Effective Date and held by the Executive to immediately accelerate, vest, and become fully exercisable or nonforfeitable.

(b) Additional Limitation.

(i) Anything in this Agreement to the contrary notwithstanding, if the amount of any compensation, payment, acceleration, benefit, or distribution by the Company to or for the benefit of the Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, calculated in a manner consistent with Section 280G of the Internal Revenue Code of 1986, as amended (the "**Code**") and the applicable regulations thereunder (the "**Severance**

Payments"), would be subject to the excise tax imposed by Section 4999 of the Code, then the Severance Payments will be reduced (but not below zero) to the extent necessary so that the sum of all Severance Payments does not exceed the Threshold Amount (defined below), but if the after-tax amount the Executive would receive if there were no reduction pursuant to this section (including any federal, state, and local taxes) exceeds the after-tax amount the Executive would receive if the Severance Payments were reduced below the Threshold Amount, the Severance Payments will no longer be so reduced. If Severance Payments are required to be reduced, the Severance Payments will be reduced in the following order: (1) cash payments not subject to Section 409A of the Code; (2) cash payments subject to Section 409A of the Code; (3) equity-based payments and acceleration; and (4) non-cash forms of benefits.

(ii) For the purposes of this Section 7(b), "**Threshold Amount**" means three times the Executive's "base amount" within the meaning of Section 280G(b)(3) of the Code and the regulations promulgated thereunder less one dollar ($1.00).

(iii) The determinations under this Section 7(b) will be made by a nationally recognized accounting firm selected by the Company (the "**Accounting Firm**"), which must provide detailed supporting calculations both to the Company and the Executive within 15 business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Executive.

(c) Change of Control Definition. For purposes of this Section 7, "**Change of Control**" means the consummation of any of the following:

(i) the sale of all or substantially all of the assets of the Company or the Parent to an unrelated person or entity;

(ii) a merger, reorganization, or consolidation involving the Company or the Parent in which the shares of voting stock outstanding immediately prior to the transaction represent or are converted into or exchanged for securities of the surviving or resulting entity that, immediately upon completion of the transaction, represent less than 50% of the outstanding voting power of the surviving or resulting entity;

(iii) the acquisition of all or a majority of the outstanding voting stock of the Company or the Parent in a single transaction or a series of related transactions by a person or group of persons; or

(iv) any other acquisition of the business of the Company or the Parent, as determined by the Board;

but the Company's initial public offering, any subsequent public offering, or another capital raising event, or a merger effected solely to change the Company's domicile does not constitute a Change of Control.

Section 8. Section 409A Compliance. The following rules shall apply, to the extent necessary, with respect to distribution of the payments and benefits, if any, to be provided to the Executive under this Agreement. Subject to the provisions in this Section, the severance payments pursuant to this Agreement shall begin only upon the date of the Executive's "separation from service" (determined as set forth below) which occurs on or after the date of the Executive's termination of employment.

(a) This Agreement is intended to comply with Code Section 409A (to the extent applicable) and the parties hereto agree to interpret, apply and administer this Agreement in the least restrictive manner necessary to comply therewith and without resulting in any increase in the amounts owed hereunder by the Company.

(b) It is intended that each installment of the severance payments and benefits provided under this Agreement shall be treated as a separate "payment" for purposes of Section 409 A of the Internal Revenue Code of 1986, as amended, and the guidance issued thereunder ("**Section 409A**"). Neither the Executive nor the Company shall have the right to accelerate or defer the delivery of any such payments or benefits except to the extent specifically permitted or required by Section 409A.

(c) If, as of the date of the Executive's "separation from service" from the Company, the Executive is not a "specified employee" (within the meaning of Section 409 A), then each installment of the severance payments and benefits shall be made on the dates and terms set forth in this Agreement.

(d) If, as of the date of the Executive's "separation from service" from the Company, the Executive is a "specified employee" (within the meaning of Section 409A), then:

(i) Each installment of the severance payments and benefits due under this Agreement that, in accordance with the dates and terms set forth herein, will in all circumstances, regardless of when the separation from service occurs, be paid within the short-term deferral period (as defined in Section 409A) shall be treated as a short-term deferral within the meaning of Treasury Regulation Section 1.409A-l(b)(4) to the maximum extent permissible under Section 409A; and

(ii) Each installment of the severance payments and benefits due under this Agreement that is not described in Section 7(d)(i) above and that would, absent this subsection, be paid within the six-month period following the Executive's "separation from service" from the Company shall not be paid until the date that is six months and one day after such separation from service (or, if earlier, the Executive's death), with any such installments that are required to be delayed being accumulated during the six-month period and paid in a lump sum on the date that is six months and one day following the Executive's separation from service and any subsequent installments, if any, being paid in accordance with the dates and terms set forth herein; provided, however, that the preceding provisions of this sentence shall not apply to any installment of severance payments and benefits if and to the maximum extent that such installment is deemed to be paid under a separation pay plan that does not provide for a deferral of compensation by reason of the application of Treasury Regulation 1.409A-1 (b)(9)(iii) (relating to separation pay upon an involuntary separation from service). Any installments that qualify for the exception under Treasury Regulation Section 1.409A-l(b)(9)(iii) must be paid no later than the last day of the second taxable year following the taxable year in which the separation from service occurs.

(e) The determination of whether and when the Executive's separation from service from the Company has occurred shall be made in a manner consistent with, and based on the presumptions set forth in, Treasury Regulation Section 1.409A-l(h). Solely for purposes of this Section, "Company" shall include all persons with whom the Company would be considered a single employer as determined under Treasury Regulation Section 1.409A-l(h)(3).

(f) All reimbursements and in-kind benefits provided under this Agreement shall be made or provided in accordance with the requirements of Section 409A to the extent that such reimbursements or in-kind benefits are subject to Section 409A, including, where applicable, the requirements that (i) any reimbursement is for expenses incurred during the Executive's lifetime (or during a shorter period of time specified in this Agreement), (ii) the amount of expenses eligible for

reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense will be made on or before the last day of the calendar year following the year in which the expense is incurred and (iv) the right to reimbursement is not subject to set off or liquidation or exchange for any other benefit.

(g) Notwithstanding anything herein to the contrary, the Company shall have no liability to the Executive or to any other person if the payments and benefits provided in this Agreement that are intended to be exempt from or compliant with Section 409A are not so exempt or compliant.

Section 9. Confidential Information. Employee agrees to enter into the Company's standard Employee Confidentiality and Proprietary Rights Agreement (the "Confidential Information Agreement"). Employee's receipt of any benefits in connection with or following Employee's termination will be subject to Employee continuing to comply with the terms of Confidential Information Agreement.

Section 10. Cooperation; Other Documents; Non-Disclosure.

(a) Litigation and Regulatory Cooperation. During and after the Executive's employment, the Executive shall reasonably cooperate with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that took place while the Executive was employed by the Company. The Executive's reasonable cooperation in connection with such claims or actions includes, but is not limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Executive's employment, the Executive also shall reasonably cooperate with the Company in connection with any investigation or review of any federal, state, or local regulatory authority as any such investigation or review relates to events or occurrences that took place while the Executive was employed by the Company. The Company shall compensate Executive for her time spent, and reimburse the Executive for any reasonable out-of-pocket expenses incurred, in connection with the Executive's performance of obligations pursuant to this Section 10.

(b) Non-Disclosure. The Executive shall use her reasonable efforts to maintain the confidentiality of the terms of this Agreement to the extent permitted by law, but the Executive may disclose the terms to her immediate family members and to her legal, tax, and other advisors.

Section 11. Arbitration of Disputes.

(c) Scope of Arbitration Requirement. The Executive hereby waives her right to a trial before a judge or jury and agrees to arbitrate before a neutral arbitrator skilled in hearing similar disputes any and all claims or disputes arising out of this Agreement and any and all claims arising from or relating to her employment, including but not limited to claims against any current or former employee, director, or agent of the Company, claims of wrongful termination, retaliation, discrimination, harassment, breach of contract (including but not limited to disputes pertaining to the formation, validity, interpretation or effect of this Agreement), breach of the covenant of good faith and fair dealing, defamation, invasion of privacy, fraud, misrepresentation, constructive discharge or failure to provide a leave of absence, or claims regarding commissions, stock options or bonuses, infliction of emotional distress, or unfair business practices (each an "**Arbitrable Dispute**"). Arbitration is the exclusive remedy for any Arbitrable Dispute, instead of any court or administrative action, unless the waiver of a certain court or administrative action is prohibited by law.

(d) Procedure. Any arbitration will be administered by the American Arbitration Association ("**AAA**") and the neutral arbitrator will be selected in a manner consistent with AAA's National Rules For The Resolution of Employment Disputes ("**Applicable Arbitration Rules**"). Any arbitration under this Agreement must be conducted in the State of California, and the arbitrator must administer and conduct the arbitration in accordance with the Applicable Arbitration Rules, except that (i) the arbitrator must allow for the discovery authorized by the California Rules of Civil Procedure or the discovery that the arbitrator decides is necessary for the Parties to vindicate their respective claims or defenses, and (ii) presentation of evidence will be governed by the California Rules of Evidence. Within a reasonable time after the conclusion the arbitration proceedings, the arbitrator shall issue a written decision and must include the findings of fact and law that support that decision. The arbitrator has the power to award any remedies available under applicable law, and the arbitrator's decision is final and binding on both Parties, except to the extent applicable law allows for judicial review of arbitration awards.

(e) Costs. The Company shall bear all the costs of arbitration, except that the Executive shall pay the first $125.00 of any filing fees associated with any arbitration the Executive initiates. Both Parties are responsible for their own attorneys' fees, and the arbitrator may not award attorneys' fees unless a statute or contract at issue specifically authorizes such an award.

(f) Applicability. This Section 11, does not apply to (i) workers' compensation or unemployment insurance claims or (ii) claims concerning ownership, validity, infringement, misappropriation, disclosure, misuse, or enforceability of any confidential information, patent right, copyright, mask work, trademark, or any other trade secret or intellectual property held or sought by either the Executive or the Company.

(g) Remedy. Should any party institute any legal action or administrative proceeding against the other with respect to any claim waived by this Agreement or pursue any Arbitrable Dispute by any method other than as set forth above, except to enforce the arbitration provisions and as expressly provided for in this Section 11, the responding party is entitled to recover from the initiating party all damages, costs, expenses, and attorneys' fees incurred as a result of that action.

Section 12. Consent to Jurisdiction. To the extent that any court action is initiated to enforce Section 11 of this Agreement, the Parties hereby consent to the jurisdiction of any state court in the State of California and any U.S. District Court sitting in the State of California. Accordingly, with respect to any such court action, the Executive (a) submits to the personal jurisdiction of such courts; (b) consents to service of process; and (c) waives any other requirement (whether imposed by statute, rule of court, or otherwise) with respect to personal jurisdiction or service of process.

Section 13. Integration. This Agreement and the Confidential Information Agreement executed concurrently herewith, constitute the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior agreements between the Parties concerning such subject matter, but any indemnification agreement between the Parties, and all plans and agreements related to stock options and other stock-based awards held by the Executive remain in full force and effect except to the extent specifically modified by this Agreement. Without limiting the foregoing, the parties agree that any employment agreement, other than this Agreement, existing between the Parties as of the date hereof is hereby terminated and shall be of no force of effect.

Section 14. Withholding. All payments made by the Company to the Executive under this Agreement will be net of any tax or other amounts required to be withheld by the Company under

applicable law. Nothing in this Agreement is to be construed to obligate the Company to design or implement any compensation arrangement in a way that minimizes tax consequences for the Executive.

Section 15. Successor to the Executive. This Agreement inures to the benefit of and is enforceable by the Executive's personal representatives, executors, administrators, heirs, distributees, devisees, and legatees. If the Executive dies after her termination of employment but prior to the completion by the Company of all payments due her under this Agreement, the Company shall continue the payments to the Executive's beneficiary designated in writing to the Company prior to her death (or to her estate, if the Executive fails to make such a designation).

Section 16. Enforceability. If any portion or provision of this Agreement is declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of that portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, will not be affected by that declaration, and each portion and provision of this Agreement will continue to be valid and enforceable to the fullest extent permitted by law.

Section 17. Survival. The provisions of this Agreement survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the intent of the Parties as expressed in this Agreement.

Section 18. Waiver. No waiver of any provision of this Agreement is effective unless made in writing and signed by the waiving party, and, in the case of the Company only after the waiver has been specifically approved by the Board. The failure of either party to require the performance of any term or obligation of this Agreement, or the waiver by either party of any breach of this Agreement, will not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

Section 19. Notices. Any notices, requests, demands, and other communications provided for by this Agreement are sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Executive at the last address the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention to the Corporate Secretary.

Section 20. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

Section 21. Governing Law. This Agreement is to be construed under and be governed in all respects by the laws of the State of California without giving effect to the conflict of laws principles of that state.

Section 22. Counterparts. This Agreement may be executed in any number of counterparts, and by each party on separate counterparts, each of which counterparts, when so executed and delivered is to be taken to be an original; but those counterparts together constitute one and the same document. PDF, facsimile, scanned, and electronic signatures have the same legal effect as original ink signatures.

Section 23. Successor to Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to

obtain an assumption of this Agreement at or prior to the effectiveness of any succession is a material breach of this Agreement.

Section 24. Voluntary Nature of Agreement. The Executive acknowledges and agrees that she is executing this Agreement voluntarily and without any duress or undue influence by the Company or anyone else. The Executive further acknowledges and agrees that she has carefully read this Agreement and that she has asked any questions needed for her to fully understand the terms, consequences, and binding effect of this Agreement. The Executive agrees that she has been provided an opportunity to seek the advice of an attorney of her choice before signing this Agreement.

The Parties are executing this Executive Agreement as of the date set forth in the introductory paragraph.

[Remainder of page left blank intentionally. Signature page follows.]

ARBUTUS BIOPHARMA, INC.

By: /s/Mark J. Murray__

Printed Name: Mark J. Murray

Title: President and CEO

EXECUTIVE

/s/ Elizabeth Howard

Printed Name: Elizabeth Howard

[Signature page to Executive Employment Agreement]

EXHIBIT A

FORM OF GENERAL RELEASE

This General Release and Waiver ("**Release**") is made and entered into as of _____ (the "**Release Date**"), by and between Arbutus Biopharma, Inc. (the "**Company**"), and Elizabeth A. Howard, Ph.D. (the "**Executive**"). The Company and/or Executive may hereinafter be referred to individually as a "**Party**" or collectively as the "**Parties.**"

In consideration of the mutual covenants hereinafter set forth, the Parties hereby agree as follows:

1. Separation. Executive's employment with Employer ended effective _____.

2. Payment and Benefits. In consideration of the promises made in this Release, Employer has agreed to pay Executive the benefits described in the applicable provisions of Sections 5 and 6 (and, in the event of a Change in Control, Section 7) of that certain Executive Employment Agreement made and entered into between the Parties (the "**Employment Agreement**"). Executive understands and acknowledges that the benefits described in this Section 2 constitute benefits in excess of those to which Executive would be entitled without entering into this Release. Executive acknowledges that such benefits are being provided by Employer as consideration for Executive entering into this Release, including the release of claims and waiver of rights provided in Section 3 of this Release.

3. Release of Claims and Waiver of Rights.

(a) Executive, on Executive's own behalf and that of Executive's spouse, heirs, executors or administrators, assigns, insurers, attorneys and other persons or entities acting or purporting to act on Executive's behalf (the "**Executive's Parties**"), hereby irrevocably and unconditionally release, acquit and forever discharge Employer, its affiliates, subsidiaries, directors, officers, employees, shareholders, partners, agents, representatives, predecessors, successors, assigns, insurers, attorneys, benefit plans sponsored by Employer and said plans' fiduciaries, agents and trustees (the "**Released Parties**"), from any and all actions, cause of action, suits, claims, obligations, liabilities, debts, demands, contentions, damages, judgments, levies and executions of any kind, whether in law or in equity, known or unknown, which the Executive's Parties have, have had, or may in the future claim to have against the Released Parties by reason of, arising out of, related to, or resulting from Executive's employment with Employer or the termination thereof. This release specifically includes without limitation any claims arising in tort or contract, any claim based on wrongful discharge, any claim based on breach of contract, any claim arising under federal, state or local law prohibiting race, sex, age, religion, national origin, handicap, disability or other forms of discrimination, any claim arising under federal, state or local law concerning employment practices, and any claim relating to compensation or benefits. This specifically includes, without limitation, any claim which the Executive has or has had under

Title VII of the Civil Rights Act of 1964; 42 U.S.C. §§ 1981-1988; the Americans with Disabilities Act; , the Age Discrimination in Employment Act (and the Older Workers Benefit Protection Act), the Fair Labor Standards Act; the Family and Medical Leave Act; the Workers Adjustment and Retraining Notification Act, as amended; the Occupational Safety and Health Act, as amended, the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the California Family Rights Act (Cal. Govt. Code § 12945.2 et seq.), the California Fair Employment and Housing Act (Cal. Govt.

Code § 12900 et seq.), statutory provision regarding retaliation/discrimination for filing a workers' compensation claim under Cal. Labor Code § 132a, and/or any other claims of whatever nature arising in connection with Executive's employment with the Company or her separation from such employment, and any and all other claims arising under federal, state or local law. Executive acknowledges she received any and all leaves of absence to which she may have been entitled during employment, and that she suffers from no workplace injuries arising from her employment at the Company, and does not intend to file any claim for workers' compensation benefits. It is understood and agreed that the waiver of benefits and claims contained in this section does not include: (i) a waiver of the right to payment of any vested, nonforfeitable benefits to which the Executive or a beneficiary of the Executive may be entitled under the terms and provisions of any employee benefit plan of Employer which have accrued as of the separation date; (ii) a waiver of the right to benefits and payment of consideration to which Executive may be entitled under the Employment Agreement or any of the agreements contemplated thereby (including indemnification agreements and the stock option agreements); and (iii) a waiver of any rights to indemnification under the Certificate of Incorporation or Bylaws of the Employer or an subsidiary of Employer or under applicable law and regulation. Executive acknowledges that she is only entitled to the severance benefits and compensation set forth in the Employment Agreement, and that all other claims for any other benefits or compensation are hereby waived, except those expressly stated in the preceding sentence.

Nothing in this Release shall be deemed to require the waiver or release of any claim that may not be released or waived under applicable federal or state law. To the extent required by law, nothing contained in this Agreement shall be construed to prohibit Executive from filing a charge or complaint, including a challenge to the validity of the waiver provision of this Agreement, with the U.S. Equal Employment Opportunity Commission, or participating in any investigation conducted by the U.S. Equal Employment Opportunity Commission; provided, however, that Executive has waived her right to any monetary damages or other individual legal or equitable relief awarded as a result of any such proceeding. Nothing contained in this Agreement shall bar a claim by either party to enforce the terms of this Agreement.

(b) Executive hereby acknowledges that she understands that under this Release she is releasing any known or unknown claims she may have arising out of, related to, or resulting from Executive's employment with Employer or the termination thereof (the "**Released Claims**"). She therefore acknowledges that she has read and understands Section 1542 of the California Civil Code, which reads as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

Executive expressly waives and relinquishes all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to the Released Claims.

4. Acknowledgment of Waiver of Claims under ADEA. Executive acknowledges that Executive is waiving and releasing any rights Executive may have under the Age Discrimination in Employment Act of 1967 ("**ADEA**") and that this waiver and release is knowing and voluntary. Executive acknowledges that the consideration given for this Release is in addition to anything of value to which Executive already is entitled. Executive further acknowledges that Executive has been advised by this writing that:

(a) the release and waiver granted herein does not relate to claims under the ADEA which may arise after this Release is executed;

(b) Executive should consult with an attorney ***prior*** to executing this Release;

(c) Executive has at least twenty-one (21) days within which to consider this Release as it relates to claims under the ADEA, although Executive may accept the terms of this Release at any time within those 21 days and earlier execute this Release;

(d) Executive has seven (7) days following the execution of this Release to revoke this Release as it relates to claims under the ADEA; and

(e) This Release will not be effective as it relates to claims under the ADEA until the revocation period has expired, which will be the eighth (8^{th}) day after this Release is executed by both Parties, and the severance payments described in the Employment Agreement will not be paid until this Release has become effective and all statutory revocation periods have expired.

5. Non-Disparagement. The parties agree to treat each other respectfully and professionally and not disparage the other party, and the other party's officers, directors, employees, shareholders and agents, in any manner likely to be harmful to them or their business, business reputation or personal reputation; provided that both the Executive and Employer will respond accurately and fully to any question, inquiry or request for information when required by the legal process.

6. No Admissions. Employer denies that it or any of its employees or agents has taken any improper action against Executive. Nothing contained herein shall be deemed as an admission by Employer of any liability of any kind to Executive, all such liability being expressly denied. Further, this Release shall not be admissible in any proceeding as evidence of improper action by Employer or any of its employees or agents.

7. Non-Waiver. Employer's waiver of a breach of this Release by Executive shall not be construed or operate as a waiver of any subsequent breach by Executive of the same or of any other provision of this Release.

8. Restrictive Covenants. Executive understands that the covenants in Section 4 of the Employment Agreement survive the termination of her employment with Employer.

9. Amendment, Waiver. No amendment or variation of the terms of this Release shall be valid unless made in writing and signed by Executive and Employer. A waiver of any term or condition of this Agreement shall not be construed as a general waiver by Employer. Failure of either Employer or Executive to enforce any provision or provisions of this Agreement shall not waive any enforcement of any continuing breach of the same provision or provisions or any breach of any provision or provisions of this Agreement.

[Remainder of page left blank intentionally. Signature page follows.]

IN WITNESS WHEREOF, the Parties have executed this Release as of dates set forth below their respective signatures below.

EMPLOYER:

ARBUTUS BIOPHARMA, INC.

By: _

Name: _

Title: _

Date: ___

EXECUTIVE:

Date:

[Signature page to Executive's Release Agreement]

EXHIBIT B

DUTIES AND RESPONSIBILITIES

Executive Vice-President and General Counsel

Reports to: CEO

Responsibilities:
Reporting to the President and Chief Executive Officer, this position is responsible for leading corporate strategic intellectual property, business, licensing and corporate legal initiatives as well as implementation of tactics and practices. Provides senior management with effective advice on company legal strategies and their implementation, manages the legal function, and obtains and oversees the work of outside counsel. Is directly involved in complex business transactions and in negotiating critical contracts.

Essential Functions:

- Develops the company's intellectual property strategy and oversees its execution.
- Is responsible for license agreements and contracts into which the company enters.
- Participates in the definition and development of corporate policies, procedures and programs and provides continuing counsel and guidance on legal matters and on legal implications of all matters.
- Serves as key lawyer/legal advisor on all major business transactions, including acquisitions, licenses, divestitures and joint ventures.
- Judges the merits of major court cases filed against or on behalf of the company, works with the appropriate executive(s) to define a strategic defense and approves settlements of disputes where warranted.
- While initially focused on intellectual property and licensing, this role will eventually assume the responsibility for all general corporate legal matters and act as General Counsel.
- Structures and manages the company's internal legal function and staff. Oversees the selection, retention, management and evaluation of all outside counsel.

Confidential treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as [***]. A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

AMENDED AND RESTATED
PROTIVA AGRICULTURAL DEVELOPMENT COMPANY INC.
OPTION AGREEMENT

6503474.12

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Exhibits

AMENDED AND RESTATED OPTION AGREEMENT

This AMENDED AND RESTATED OPTION AGREEMENT (this "**Agreement**"), made as of March 4, 2016 (the "**Effective Date**") by and among **Monsanto Canada, Inc.**, a Canadian corporation ("**Monsanto Canada**"), **Arbutus Biopharma Corporation (formerly known as Tekmira Pharmaceuticals Corporation)**, a British Columbia corporation ("**Arbutus**"), **Protiva Biotherapeutics Inc.**, a British Columbia corporation ("**Protiva**"), and **Protiva Agricultural Development Company Inc.**, a British Columbia corporation (the "**Company**").

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INTRODUCTION

A. Protiva previously formed the Company for the purpose of conducting a program to design and synthesize Compounds and/or Formulations and to conduct research and development activities for such Compounds and/or Formulations as described in the Research Plan (as amended and restated the "**Research Program**").

B. The parties hereto entered into that certain Option Agreement dated January 12, 2014, pursuant to which, among other things, Protiva granted to Monsanto Canada an option for Monsanto Canada to acquire all of the outstanding capital stock of the Company from Protiva (as amended, the "**Original Option Agreement**").

C. Concurrently with the execution of the Original Option Agreement, the Company and Protiva entered into a License and Services Agreement (the "**Original PadCo-Protiva License and Services Agreement**"), pursuant to which, among other things, (a) the Company allows Protiva to conduct services for the Company to design and synthesize Compounds and/or Formulations according to the Research Program and (b) Protiva granted the Company the Protiva License.

D. Concurrently with the execution of the Original Option Agreement, Protiva and Monsanto Company, a Delaware corporation ("**Monsanto**"), entered into a Services Agreement (as amended, the "**Original Protiva-Monsanto Services Agreement**"), pursuant to which, among other things, Monsanto conducts services for Protiva to screen Compounds and/or Formulations according to the Research Program.

E. The parties hereto desire to amend and restate the Original Option Agreement as set forth in this Agreement to facilitate Monsanto Canada's exercise of the Call Option and further desire to (i) amend and restate the Original PadCo-Protiva License and Services Agreement in the form attached hereto as Exhibit L (the "**PadCo-Protiva License and Services Agreement**") and (ii) amend and restate the Original Protiva-Monsanto Services Agreement in the form attached hereto as Exhibit M (the "**Protiva-Monsanto Services Agreement**"), concurrently with the parties' execution and delivery of this Agreement.

F. Monsanto Canada desires to exercise the Call Option to acquire from Protiva, and Protiva desires to sell to Monsanto Canada, all of the outstanding capital stock of the Company, subject to terms and condition set forth herein.

G. As of the date hereof, Monsanto Canada has paid, or caused to be paid to Protiva, [***] pursuant to the Original Option Agreement.

In consideration of the foregoing and the agreements set forth below, the parties agree with each other as follows:

1. Certain Defined Terms. As used in this Agreement, the following terms shall have the following respective meanings:

"**Action**" means any pending or threatened claim, demand, notice, action, suit, arbitration, proceeding or investigation.

"**Affiliate**" means, when used with respect to a specified Person, another Person that either directly or indirectly, now or hereafter, through one or more intermediaries, controls, is controlled by, or is under common control with, the specified Person; provided, however, that until Monsanto has acquired all of the outstanding capital stock of the Company from Protiva, the Company shall not be an Affiliate of Monsanto Canada and none of Monsanto Canada or its Affiliates shall be an Affiliate of the Company. For purposes of this definition, "control" (including the terms "controlled by" and "under common control with"), with respect to the relationship between or among two or more Persons, shall mean the power to direct or cause the direction of the affairs or management of a Person, whether through the ownership of voting securities, as trustee, personal representative or executor, by contract or otherwise, including, without limitation, the ownership, directly or indirectly, of securities having the power to elect a majority of the board of directors or similar body governing the affairs of such Person.

"**Agricultural Field**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Board**" means the Board of Directors of the Company.

"**Business Day**" means any weekday on which banks are open for general banking business in St. Louis, Missouri and in Vancouver, British Columbia.

"**Call Period**" means the period commencing on the Effective Date of this Agreement and ending on the earliest to occur of (a) the Closing, (b) the expiration of the Option Notice Period without Monsanto Canada having exercised the Call Option, or (c) the termination of this Agreement in accordance with the terms of Section 9 without a Closing having occurred.

"**Change of Control**" means (a) the closing of the sale, transfer or other disposition (including by way of exclusive license) of all or substantially all of an entity's assets, (b) the consummation of the merger or consolidation of an entity with or into another entity (except a merger or consolidation in which the members or stockholders of such original entity immediately prior to such merger or consolidation continue to hold at least fifty percent (50%) of the voting power of such original entity or the surviving or acquiring entity), or (c) the closing of the transfer (whether by merger, consolidation or otherwise), in one transaction or a series of related transactions, to a Person or group of Affiliated Persons (other than an underwriter of an entity's securities), of an entity's securities if, after such closing, such Person or group of affiliated Persons would hold fifty percent (50%) or more of the outstanding securities of such entity (or the surviving or acquiring entity).

"**Code**" means the *Income Tax Act* (Canada).

"**Commercial Milestone Payment**" has the meaning given to such term in the PadCo-Protiva License and Services Agreement.

"**Company Business**" means discovering, identifying, characterizing and conducting research and Commercialization activities on Compounds and Formulations intended for the delivery of nucleic acids in the Agricultural Field.

"**Company Licensed Intellectual Property**" means the Intellectual Property licensed to the Company by any third party, including the Protiva Intellectual Property.

"**Company Owned Intellectual Property**" means all Intellectual Property owned by the Company.

"**Compound**" has the meaning given to such term in the PadCo-Protiva License and Services Agreement.

"**Confidential Information**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Continuing JRC Term**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Controlled by**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Copyrights**" means United States and foreign copyrights, copyrightable works and mask works, whether registered or unregistered, and pending applications to register the same, and moral rights in the foregoing.

"**Damages**" means the amount of any liabilities, losses, damages, penalties, fines, charges (including costs of investigation), costs, claims, deficiencies, injuries, settlements, judgments, awards, fees, or expenses (including reasonable attorneys' fees and expenses and reasonable costs and expenses of other professionals, including consultants and experts), whether or not involving an Action, including any costs of defending any Actions or enforcing an Indemnified Party's rights under this Agreement, actually incurred or suffered by a party with respect to or relating to an Action, event, circumstance or state of facts.

"**Data Package**" means all relevant study reports and other previously prepared and reasonably related documents in the possession or control of (i) Protiva to the extent such reports or documents are generated pursuant to the Research Program or (ii) the Company, including existing development plans and regulatory correspondence, that provide evidence that Phase C has been completed.

"**Disclosing Party**" means, as applicable, (i) Monsanto, Monsanto Canada and/or their Affiliates to the extent such "Disclosing Party" is disclosing Confidential Information to a Receiving Party; (ii) Protiva and/or its Affiliates (other than the Company and any subsidiaries of the Company) to the extent such "Disclosing Party" is disclosing Confidential Information to a Receiving Party; or (iii) the Company and/or any subsidiaries of the Company to the extent such "Disclosing Party" is disclosing Confidential Information to a Receiving Party. If the Closing occurs, then from and after the Closing, provisions regarding disclosures of Confidential Information made by the Company and/or any of its subsidiaries as the Disclosing Party to Protiva and/or its Affiliates (other than the Company and any subsidiaries of the Company) shall inure to the benefit of Monsanto Canada as the successor in interest to the Company (whether as a result of the acquisition of the Company's right, title and interest in and to the Protiva License or the outstanding capital stock of the Company).

"**Exclusivity Period**" means the period beginning on the Effective Date and ending on the later of (a) the termination by Monsanto Canada of this Agreement in accordance with the terms of Section 9, (b) the Failure to Exercise, or (c) [***].

"**Failure to Exercise**" means the expiration of the Call Period without Monsanto Canada exercising the Call Option.

"**Formulation**" has the meaning given to such term in the PadCo-Protiva License and Services Agreement.

"**GAAP**" means generally accepted accounting principles in the United States, consistently applied.

"**Governmental Authority**" means any United States or supra-national, foreign, federal, state, local, provincial, or municipal government, governmental, regulatory or administrative authority, agency, body, branch, bureau, instrumentality or commission or any court, tribunal, or judicial or arbitral body having relevant jurisdiction over a subject matter.

"**Governmental Order**" means any order or injunction issued by or under the authority of any Governmental Authority.

"**Indebtedness**" means, as applied to any Person, (a) all indebtedness for borrowed money, whether current or funded, or secured or unsecured, (b) all indebtedness for the deferred purchase price of property or services represented by a note or other security (other than trade payables incurred in the ordinary course of business), (c) all indebtedness created or arising under any conditional sale or other title retention agreement with respect to property acquired (even though the rights and remedies of the seller or lender under such agreement in the event of default are limited to repossession or sale of such property), (d) all indebtedness secured by a purchase money mortgage or other lien to secure all or part of the purchase price of property subject to such mortgage or lien, (e) all obligations under leases which shall have been or must be, in accordance with GAAP, recorded as capital leases in respect of which such Person is liable as lessee, (f) any liability in respect of banker's acceptances or letters of credit, (g) all Tax or Taxes payable to a Governmental Authority, and (h) all indebtedness referred to in clauses (a), (b), (c), (d), (e), (f) or (g) above which is directly or indirectly guaranteed by or which such Person has agreed (contingently or otherwise) to purchase or otherwise acquire or in respect of which it has otherwise assured a creditor against loss.

"**Independent IP Counsel**" means an independent, registered, U.S. patent attorney selected (i) by the mutual agreement of the parties hereto or (ii) if they cannot agree, each party hereto shall provide the names of two (2) law firms they find acceptable, excluding those firms the other party found unacceptable, to the third party arbitrator as provided in Section 12(k)(iv) below and agree to abide by the decision of the arbitrator.

"**Intellectual Property**" means patents or patent applications and other intellectual property and proprietary rights of any description including (a) Copyrights, (b) Patent Rights, (c) Trademarks, (d) Trade Secrets, (e) related registrations and applications for registration, (f) moral rights or publicity rights, (g) inventions, discoveries, improvements, modifications, techniques, methodologies, writings, works of authorship, designs or data, whether or not patented, patentable, copyrightable or reduced to practice, including as embodied or disclosed in any: (i) computer source codes (human readable format) and object codes (machine readable format); (ii) specifications; (iii) manufacturing, assembly, test, installation, service and inspection instructions and procedures; (iv) engineering, programming, service and maintenance notes and logs; (v) technical, operating and service and maintenance manuals and data; (vi) hardware reference manuals; and (vii) user documentation, help files or training materials, (h) other protectable intellectual property and proprietary rights of any description, including any know-how, and (i) goodwill related to any of the foregoing.

"Joint Project Intellectual Property" has the meaning set forth in the PadCo-Protiva License and Services Agreement.

"Joint Project Inventions" has the meaning set forth in the PadCo-Protiva License and Services Agreement.

"Joint Project Patents" has the meaning set forth in the PadCo-Protiva License and Services Agreement.

"JRC Joint IP Infringement Matter" has the meaning set forth in the Protiva-Monsanto Services Agreement.

"**Knowledge,**" including the phrase "**to the Company's Knowledge**," means with respect to a fact or matter, the knowledge of (i) the most senior employee who is principally responsible for conducting the activities under the Research Plan or overseeing any of the transactions contemplated by the Transaction Agreements, (ii) the person who is a member of the JRC designated by Protiva on the date hereof or the Closing, as applicable or (iii) those persons identified on Exhibit J, in the case of clause (i), (ii), and (iii), following reasonable inquiry; provided that the persons referenced in clauses (i), (ii) and (iii) are current employees or independent contractors of Arbutus, Protiva, the Company or any of their Affiliates. Each of "**Known**" or "**Knowingly**" has a correlative meaning.

"**Law**" means, in each case to the extent applicable, any United States or non-U.S. federal, state, provincial, municipal, or local law, statute, regulation, rule, code, constitution, regulation, rule, notice, court decision, interpretation, agency guidance, order, resolution, stipulation, determination, requirement, edict or ordinance enacted, adopted, issued, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Authority (including those pertaining to electrical, building, zoning, environmental, animal welfare and occupational safety and health requirements) or common law.

"**Liability**" means any and all debts, liabilities and obligations of any kind or nature, whether accrued or fixed, absolute or contingent, matured or unmatured, or determined or determinable.

"**Lien**" means any mortgage, deed of trust, security interest, pledge, hypothecation, assignment in the nature of a security interest, attachment, encumbrance, lien (statutory, judgment or otherwise), or other security agreement of any kind or nature whatsoever (including any conditional sale or other title retention agreement and any lease in the nature of a security interest).

"**Material Adverse Effect**" means any change, event, circumstance, development, occurrence or effect that individually, or taken together with any other change, event, circumstance, development, occurrence or effect is, or would reasonably be expected to have, a materially adverse effect on (i) to the business, assets (including intangible assets), Intellectual Property, liabilities, financial condition, property, or results of operations of the Company or (ii) the ability of the Company, Arbutus or Protiva, as applicable, to consummate the transactions contemplated by this Agreement.

"**Milestone Payments**" means the Option Insect Milestone A Payment, the Option Plant Milestone A Payment, the Option Insect Milestone B Payment, the Option Plant Milestone B Payment, the Option Insect Milestone C Payment, the Option Plant Milestone C Payment, the Option Set-up Milestone Payment and the Option Shipment Milestone Payment; for clarification, "Milestone Payments" shall not include any Commercial Milestone Payment or any payment with respect to the Post-Closing Milestones.

"**Monsanto Project Intellectual Property**" shall have the meaning given to such term in the Protiva-Monsanto Services Agreement.

"**Option Insect Milestone A**" shall mean that the JRC has made a determination that the Company has satisfied the Option Insect Phase A Completion Criteria.

"**Option Insect Milestone B**" shall mean that the JRC has made a determination that the Company has satisfied the Option Insect Phase B Completion Criteria.

"**Option Insect Milestone C**" shall mean that the JRC has made a determination that the Company has satisfied the Option Insect Phase C Completion Criteria.

"Option Insect Phase A Completion Criteria" shall mean the criteria outlined in Exhibit B-2(ii).

"Option Insect Phase B Completion Criteria" shall mean the criteria outlined in Exhibit B-3(ii).

"Option Insect Phase C Completion Criteria" shall mean the criteria outlined in Exhibit B-4(ii).

"**Option Notice Period**" means, after the JRC has made a determination in accordance with Section 12(k) that the Company has completed Phase C, the period commencing on the date on which Monsanto Canada has received both (a) the Data Package from Protiva, and (b) an Amended Disclosure Schedule dated no later than the date of delivery of such Data Package, and ending ninety (90) days after the later of the date of delivery of such Data Package or Amended Disclosure Schedule.

"**Option Plant Milestone A**" shall mean that the JRC has made a determination that the Company has satisfied the Option Plant Phase A Completion Criteria.

"**Option Plant Milestone B**" shall mean that the JRC has made a determination that the Company has satisfied the Option Plant Phase B Completion Criteria.

"**Option Plant Milestone C**" shall mean that the JRC has made a determination that the Company has satisfied the Option Plant Phase C Completion Criteria.

"**Option Plant Phase A Completion Criteria**" shall mean the criteria outlined in Exhibit B-2(i).

"**Option Plant Phase B Completion Criteria**" shall mean the criteria outlined in Exhibit B-3(i).

"**Option Plant Phase C Completion Criteria**" shall mean the criteria outlined in Exhibit B-4(i).

"**Option Set-up Completion Criteria**" shall mean the criteria outlined in Exhibit B-5(i).

"**Option Set-up Milestone**" shall mean that the JRC has made a determination that the Company has satisfied the Option Set-up Completion Criteria.

"**Option Shipment Completion Criteria**" shall mean the criteria outlined in Exhibit B-5(ii).

"**Option Shipment Milestone**" shall mean that the JRC has made a determination that the Company has satisfied the Option Shipment Completion Criteria.

"**Order**" means any order, stay, writ, judgment, injunction, decree, determination or award from a court or other Governmental Authority of competent jurisdiction.

"**Patent**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Patent Rights**" means rights in or licensed access to a Patent.

"**Person**" means an individual, corporation, limited liability company, syndicate, association, trust, partnership, joint venture, unincorporated organization, government agency or any agency, instrumentality or political subdivision thereof, or other entity.

"**Phase A**" shall mean the initial development activities outlined in the Research Plan to be commenced pursuant Section 2(e).

"**Post-Closing Insect Approval Criteria**" shall mean Regulatory Approval of the first insect-based Product.

"**Post-Closing Insect Approval Milestone**" shall mean that the Company has satisfied the Post-Closing Insect Approval Criteria.

"**Post-Closing Insect Submission Criteria**" shall mean Regulatory Submission of the first Insect-based Product.

"**Post-Closing Insect Submission Milestone**" shall mean that the Company has satisfied the Post-Closing Insect Submission Criteria.

"**Post-Closing Milestone**" shall mean the Post-Closing Plant Submission Milestone, Post-Closing Insect Submission Milestone, Post-Closing Plant Approval Milestone and Post-Closing Insect Approval Milestone.

"**Post-Closing Plant Approval Criteria**" shall mean Regulatory Approval of the first plant-based Product.

"**Post-Closing Plant Approval Milestone**" shall mean that the Company has satisfied the Post-Closing Plant Approval Criteria.

"**Post-Closing Plant Submission Criteria**" shall mean Regulatory Submission of the first plant-based Product.

"**Post-Closing Plant Submission Milestone**" shall mean that the Company has satisfied the Post-Closing Plant Submission Criteria.

"**Principal Competitor**" means (a) those Persons listed on Exhibit K and, unless otherwise indicated with respect to such Person on Exhibit K, any of their Affiliates, and any entity that acquires all or substantially all of any of the foregoing Persons or all or substantially all of such Person's agricultural division or the agricultural subsidiary of any of the foregoing Persons; and (b) any Person and any of their Affiliates (i) now known, or that emerges in the future, which is engaged in the business of developing, marketing or selling agricultural products (including agricultural chemical products and transgenic plants) for applications in the Agricultural Field and (ii) which is one of the top ten businesses in sales world-wide in developing, marketing or selling agricultural products (including agricultural chemical products and transgenic plants) for applications in the Agricultural Field. Notwithstanding the foregoing, in no event shall Monsanto or any controlled Affiliate thereof be deemed a "Principal Competitor" under this Agreement.

"**Products**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Protiva Intellectual Property**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Protiva License**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Protiva Project Inventions**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Protiva Project Patents**" has the meaning in the PadCo-Protiva License and Services Agreement.

"**Receiving Party**" means, as applicable, (i) Monsanto, Monsanto Canada and/or their Affiliates to the extent such "Receiving Party" is receiving Confidential Information from a Disclosing Party; (ii) Protiva and/or its Affiliates (other than the Company and any subsidiaries of the Company) to the extent such "Receiving Party" is receiving Confidential Information from a Disclosing Party; or (iii) the Company and/or any subsidiaries of the Company to the extent such "Receiving Party" is receiving Confidential Information from a Disclosing Party.

"Regulatory Approval" means the point in time at which Monsanto Canada, or its Affiliate, receives permission from the US governmental regulatory authorities or such comparable authority in countries outside of the U.S., to begin commercialization of a Product in the US or any of such countries.

"Regulatory Submission" means the point in time at which Monsanto Canada, or its Affiliate, completes submission of a dossier to a U.S. regulatory authority, or such comparable authority in countries outside of the U.S., whose purpose is to regulate the production, importation, or commercialization of a Product in the jurisdiction governed by such regulatory authority.

"**Research Plan**" means the written research plan attached hereto as Exhibit A, which describes the activities performed in the course of the Research Program, and subsequent amendments thereto approved by the JRC.

"**Tax**" or "**Taxes**" means any and all taxes, assessments, levies, tariffs, imposts, duties or other charges or impositions in the nature of a tax (together with any and all interest, penalties, additions to tax and additional amounts imposed with respect thereto) imposed by any Governmental Authority, including income, estimated income, gross receipts, profits, business, license, occupation, franchise, capital stock, real or personal property, sales, use, transfer, value added, employment or unemployment, social security, disability, alternative or add-on minimum, customs, excise, stamp, environmental, commercial rent and withholding taxes.

"**Tax Return**" means any return (including any information return), report, statement, declaration, schedule, notice, form, election or other document (including any attachments thereto and amendments thereof) required to be filed with any Governmental Authority with respect to any Tax.

"**Technology Transfer**" means the transfer by Protiva to Monsanto of the specifications, physical material, protocols, data and other documentation described in Exhibit B-6.

"**Technology Transfer Completion Criteria**" shall mean the criteria outlined in Exhibit B-6.

"**Trade Secrets**" means confidential ideas and information, trade secrets, inventions, concepts, methods, processes, formulae, reports, data, research and development results, customer lists, mailing lists, business plans and other proprietary information.

"**Trademarks**" means United States, state and foreign trademarks, service marks, logos, trade dress, trade names and Internet domain names, whether registered or unregistered, and pending applications to register the foregoing.

"**Transaction Agreements**" shall have the meaning given to such term in the PadCo-Protiva License and Services Agreement.

"**Transactions**" means each of the transactions contemplated by this Agreement and each of the other Transaction Agreements.

"**United States**" means the United States of America and its territories and possessions.

As used in this Agreement, the following terms shall have the meanings ascribed thereto in the respective Sections of this Agreement set forth opposite each such term below:

Term	Section
Acquisition Proposal	7(g)
Acquisition Transaction	7(g)
Agreement	Preamble
Amended Disclosure Schedule	7(h)
Arbutus	Preamble
Call Option	3(a)
Closing	3(d)
Closing Date	3(d)
Company	Preamble
Company Cure Period	9(a)
Company Indemnified Parties	11(b)(ii) of Appendix A
Company Shares	7(j)
Disclosure Schedule	7(h)
Dispute Negotiation Period	12(k)(i)
Effective Date	Preamble
Environmental Laws	4(w) of Appendix A
Exercise Date	3(b)
FCPA	4(i) of Appendix A
Financial Statements	4(k) of Appendix A
Fundamental Representations	11(a) of Appendix A
Hazardous Substance	4(w) of Appendix A
Indemnified Party	11(d)(i) of Appendix A
Indemnifying Party	11(d)(i) of Appendix A
Joint Patent Prosecution Matters	Schedule 12(k)
JRC	12(k)
JRC Party	12(k)
JRC Parties	12(k)
Monsanto	Introduction
Monsanto Canada	Preamble
Monsanto Canada Cure Period	9(b)
Monsanto Canada Director	7(j)
Monsanto Indemnified Parties	11(b) of Appendix A
Option Phase A-1 Initiation Payment	2(e)(ii)
Option Phase A-2 Initiation Payment	2(e)(iii)

Term	Section
Organizational Documents	4(v) of Appendix A
Original Option Agreement	Introduction
Original PadCo-Protiva License and Services Agreement	Introduction
Original Protiva-Monsanto Services Agreement	Introduction
PadCo-Protiva License and Services Agreement	Introduction
PCBs	4(w) of Appendix A
Permits	4(h)(ii) of Appendix A
Permitted Recipients	12(l)
Project Patent Response Deadline	Schedule 12(k)
Proposed Project Patent Abandonment	Schedule 12(k)
Prosecution Matters Resolution Period	Schedule 12(k)
Protiva	Preamble
Protiva-Monsanto Services Agreement	Introduction
Protiva Patent Prosecution Matters	Schedule 12(k)
Protiva Project Compound	12(l)
Proxy Shares	7(k)
Regulatory Filings	4(h)(iii) of Appendix A
Research Program	Introduction
Substantive Action	7(n)
Tax Representations	11(a) of Appendix A
Third Party Claim	11(d)(i) of Appendix A
Threshold	11(c)(i) of Appendix A
UK Bribery Act	4(i) of Appendix A

2. Conduct of Research Program.

(a) Rights and Responsibilities. Subject to Monsanto's performance of its obligations herein, the Company shall be responsible for all payments due to Protiva under the PadCo-Protiva License and Services Agreement.

(b) PadCo-Protiva License and Services Agreement. The Company previously engaged Protiva to perform certain activities described in the Research Plan pursuant to that certain Original PadCo-Protiva License and Services Agreement attached hereto as Exhibit C.

(c) Protiva-Monsanto Services Agreement. Protiva previously engaged Monsanto to perform certain activities described in the Research Plan pursuant to that certain Original Protiva-Monsanto Services Agreement attached hereto as Exhibit D.

(d) Diligence. Monsanto, Protiva and the Company shall use reasonable best efforts to (x) pursue the achievement of the Technology Transfer Completion Criteria, and (y) comply with all of its obligations under this Agreement and the other Transaction Agreements.

(e) Phase A, Phase B and Phase C. The parties acknowledge and agree as follows:

(i) The Research Plan outlined the following initial development activities:

(A) for Phase A, the Option Insect Phase A Completion Criteria and the Option Plant Phase A Completion Criteria,

(B) for Phase B, the Option Insect Phase B Completion Criteria and the Option Plant Phase B Completion Criteria, and

(C) for Phase C, the Option Insect Phase C Completion Criteria and the Option Plant Phase C Completion Criteria.

(ii) The Company has not achieved any of the Option Insect Phase A Completion Criteria, the Option Plant Phase A Completion Criteria, the Option Insect Phase B Completion Criteria, the Option Plant Phase B Completion Criteria, the Option Insect Phase C Completion Criteria or the Option Plant Phase C Completion Criteria.

(iii) On or about May 22, 2015, Monsanto Canada paid to Protiva [***] (the "**Option Phase A-1 Initiation Payment**") by electronic wire as arranged with Protiva to continue Phase A of the Research Program.

(iv) On or about September 1, 2015, Monsanto Canada paid to Protiva [***] (the "**Option Phase A-2 Initiation Payment**").

3. Call Option.

(a) Option Grant. Protiva granted Monsanto Canada the option (the "**Call Option**") during the Call Period to require Protiva to sell, convey and transfer to Monsanto Canada all outstanding capital stock of the Company in consideration for the payment by Monsanto Canada to Protiva of the amounts set forth in this Section 3.

(b) Option Exercise. Monsanto Canada hereby exercises the Call Option and Protiva hereby accepts this Agreement as written notice of such exercise as of the date hereof (the "**Exercise Date**").

(c) Exercise of Call Option. Monsanto Canada shall pay to Protiva the following amounts in the manner set forth below:

(i) At the Closing, Monsanto Canada shall pay to Protiva by electronic wire transfer as arranged with Protiva an amount in cash equal to [***].

(ii) Promptly but no later than thirty (30) days following the date on which each of the Post-Closing Plant Submission Milestone, Post-Closing Insect Submission Milestone, Post-Closing Plant Approval Milestone and Post-Closing Insect Approval Milestone, respectively, has been achieved:

(A) Monsanto Canada shall pay or cause to be paid to Protiva, within thirty (30) days after achievement of the Post-Closing Plant Submission Milestone, [***] by electronic wire as arranged with Protiva.

(B) Monsanto Canada shall pay or cause to be paid to Protiva, within thirty (30) days after achievement of the Post-Closing Insect Submission Milestone, [***] by electronic wire as arranged with Protiva.

(C) Monsanto Canada shall pay or cause to be paid to Protiva, within thirty (30) days after achievement of the Post-Closing Plant Approval Milestone, [***] by electronic wire as arranged with Protiva.

(D) Monsanto Canada shall pay or cause to be paid to Protiva, within thirty (30) days after achievement of the Post-Closing Insect Approval Milestone, [***] by electronic wire as arranged with Protiva.

(iii) In no event shall Monsanto Canada be required to pay to Protiva any of the foregoing milestone payments more than once.

(iv) Within one hundred twenty (120) days after Closing, Protiva shall complete the Technology Transfer to Monsanto Canada in accordance with Sections 1, 2, 3 and 5 of the Technology Transfer Completion Criteria.

(v) Monsanto Canada shall provide to Protiva written notice of the achievement of any milestone set forth in this Section 3(c) within ten (10) days of the achievement thereof.

(d) Closing. The closing of the transactions contemplated by the exercise of the Call Option (the "**Closing**") shall take place at the offices of Bryan Cave LLP, 211 North Broadway, Suite 3600, St. Louis, Missouri 63012, at 10:00 a.m., Central time, on the fifth (5th) calendar day after the satisfaction or waiver of the last of the conditions set forth in Section 8 to be satisfied or waived in accordance with the terms of this Agreement following the exercise of the Call Option (other than those conditions which, by their terms, are to be satisfied at the Closing), or at such other date, time and location as Monsanto Canada and Protiva may agree in writing (the "**Closing Date**").

(e) Payment at Closing. At the Closing, (i) Monsanto Canada shall pay the amounts set forth in Section 3(c)(i), (ii) Protiva, Arbutus and the Company shall execute, acknowledge and deliver such assignments, transfers, consents, assumptions and other documents and instruments and take such other commercially reasonable actions as may reasonably be requested to assign, convey or transfer to or vest in Monsanto Canada all of Protiva's right, title and interest in all of the outstanding capital stock of the Company, and (iii) Monsanto Canada's obligation to pay Protiva any further Milestone Payments pursuant to this Agreement shall be extinguished. If the outstanding capital stock of the Company is represented by certificates, Protiva shall deliver to Monsanto Canada such certificates, endorsed or accompanied by appropriate transfer power duly executed. For the avoidance of doubt, subject to Section 3(h), the sale of all of Protiva's right, title and interest in the outstanding capital stock of the Company hereunder shall not extinguish the obligation of the Company to pay the Commercial Milestone Payment to Protiva in accordance with the PadCo-Protiva License and Services Agreement.

(f) Right to Setoff. From and after the Closing, Monsanto Canada shall have the right, but not the obligation, exercisable by delivery of written notice to Protiva by Monsanto Canada, to set off against and reduce the amount of any Commercial Milestone Payment by an amount equal to [***] of any and all royalties, license fees and other consideration payable under licenses obtained from Third Parties deemed reasonably necessary or appropriate by Monsanto Canada in its discretion to avoid any claims that any Compound, Formulation or Product infringes the intellectual property rights of such Third Parties directed to lipid nano particles or the use or manufacture of lipid nano particles; provided, however, that in no event shall such set off reduce the Commercial Milestone Payment by more than one-third of the amount of such payment (e.g., if a Commercial Milestone Payment is made pursuant to part (i) of Section 3.1(a) of the PadCo-Protiva License and Services Agreement and there has been no Change of Control of Protiva or Arbutus, then in no event shall Protiva receive less than [***] as such Commercial Milestone Payment, or if such Commercial Milestone Payment is made and there has been a Change of Control of Protiva or Arbutus, then in no event shall Protiva receive less than [***]).

(g) Withholding Rights and Tax Treatment of Transactions. If Monsanto Canada is required by any Governmental Authority to deduct and withhold from the consideration otherwise payable pursuant to this Agreement to Protiva or any assignee such amounts as it is required to deduct and withhold with respect to the making of such payment under the Code, or any applicable provision of state, local or foreign Tax Law, Monsanto Canada shall gross up the payments owed to Protiva so that Protiva receives net of withholding taxes the amount Protiva would otherwise have received but for such withholding. The parties hereto agree to make commercially reasonable efforts to inform one another of potential exceptions to withholding obligations. To the extent that Protiva, its assignees, or successors are able to obtain a refund of such Tax withheld by Monsanto Canada, Protiva, its assignees, or successors agree to make a good-faith effort to obtain such refund and remit such refund to Monsanto, its assignees, or successors within thirty days of receipt of such refund. The parties will use their commercially reasonable efforts to mitigate any withholding Tax on any payments hereunder, including providing any appropriate certification or other documentation.

(h) Change of Control of Protiva or Tekmira. In the event of a Change of Control of Protiva or Tekmira with a Principal Competitor, the Commercial Milestone Payment under the PadCo-Protiva License and Services Agreement (if and when either is paid or payable under the terms of such agreement) shall be reduced by [***]. Such amounts may be further reduced in accordance with Section 3(f) above.

4. Representations and Warranties Regarding the Company. Each of Protiva and the Company represents and warrants to Monsanto Canada that, except as set forth on the Disclosure Schedule or the Amended Disclosure Schedule, as applicable, which exceptions shall be deemed to be part of the representations and warranties made hereunder, the representations and warranties set forth in Section 4 of Appendix A to this Agreement are true and complete as of the Closing Date.

5. **Representations and Warranties Regarding Protiva and Arbutus**. Each of Protiva and Arbutus hereby severally represents and warrants to Monsanto Canada that the representations and warranties set forth in Section 5 of Appendix A to this Agreement are true and complete as of the Closing Date.

6. **Representations and Warranties of Monsanto Canada**. Monsanto Canada hereby represents and warrants to the Company and Protiva that the representations and warranties set forth in Section 6 of Appendix A to this Agreement are true and complete as of the Closing Date.

7. **Covenants and Restrictions.**

(a) Acknowledgement of Transfer Restriction. During the Call Period, each of Protiva and the Company acknowledges and agrees that the Protiva License may not be transferred or sublicensed to any Person other than Monsanto Canada.

(b) No Assignment. During the Call Period, the Company shall not assign or transfer or sublicense any rights in the PadCo-Protiva License and Services Agreement and the Company Owned Intellectual Property and any other Company Licensed Intellectual Property, if any, to any Person other than Monsanto Canada.

(c) Due Diligence Investigation.

(i) During the Call Period, upon Monsanto Canada's request, provided that such requests are no more frequent than once (1) per calendar year, or at any other time when Monsanto Canada has a good faith intention to exercise the Call Option, Protiva will furnish to Monsanto Canada all information reasonably requested with respect to the affairs and businesses of Protiva to the extent it relates to the Protiva Intellectual Property and the Company, including the books and records of the Company and a reasonably detailed report on the current and planned development of the Company's product candidates, including timelines and budgets, patents, patent applications, and other Intellectual Property, field studies, interactions with regulatory authorities, manufacturing activities, and publication plans; provided that, all reasonable third party out of pocket expenses (other than accounting fees and attorneys fees) incurred by Protiva in providing such information to Monsanto Canada shall be paid by Monsanto Canada. To the extent any such report contains a significant change in activities and timelines from the report previously furnished to Monsanto Canada, such report will also include explanations for all of such changes. Representatives of the Company and Protiva shall meet with Monsanto Canada, upon Monsanto Canada's reasonable request, regularly during each year at the Company's facilities at mutually agreeable times to discuss the matters set forth in this subsection.

(ii) During the Call Period, other than in connection with the matters specified in clause (i) above, Protiva shall permit Monsanto Canada at Monsanto Canada's expense, to visit and inspect the Company's properties no more than two (2) times per year, or at any other time when Monsanto Canada has a good faith intention to exercise the Call Option, upon at least five (5) Business Days' advance written notice, to examine the Company's books of account and records and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by Monsanto Canada.

(d) Prior to Closing. During the period beginning on the Effective Date and ending on the (x) expiration of the Call Period if Monsanto Canada does not exercise the Call Option or (y) Closing if Monsanto Canada exercises the Call Option, and without limiting the covenants set forth in Section 2 with respect to the conduct of the Research Program, without the approval of the Board, including the approval of the Representatives in any event, the Company shall use commercially reasonable efforts to: (A) operate the Company Business in accordance with the Research Plan, (B) preserve intact the business organization of the Company, (C) preserve the current relationships of the Company with customers, suppliers and other Persons with which the Company has significant business relations, and (D) comply with all of the material covenants set forth in the PadCo-Protiva License and Services Agreement. In addition, during such period the Company shall not and Protiva shall cause the Company to not, without the prior written consent of Monsanto Canada, directly or indirectly do, or propose to do, any of the following:

(i) waive compliance by Protiva with the PadCo-Protiva License and Services Agreement or the Protiva-Monsanto Services Agreement;

(ii) own any stock or other securities of any subsidiary or other corporation, partnership, or other entity;

(iii) create any encumbrance on any material assets or properties of the Company (whether tangible or intangible) or the capital stock of the Company;

(iv) except as approved by the Board or as contemplated by this Agreement, incur any Indebtedness or guarantee, directly or indirectly, any Indebtedness;

(v) issue, transfer, deliver, sell, authorize, pledge or otherwise encumber or propose the issuance of any units, equity interests or other interests, or create, or authorize the creation of any additional class or series of units, equity interests or other interests;

(vi) increase the authorized number of any class or series of units, equity interests or other interests;

(vii) except as contemplated by this Agreement, distribute any of the Company's material assets in the form of a dividend;

(viii) except for the Transaction Agreements, enter into any transaction or agreement with any Affiliate;

(ix) engage in any business other than the Company Business;

(x) enter into any transaction or agreement with any third party;

(xi) sell, assign, transfer, lease, license, abandon, permit to lapse or otherwise dispose of, or agree to sell, assign, transfer, lease, license, abandon, permit to lapse or otherwise dispose of, any of the material tangible assets of the Company, any material proprietary rights or technology, except as approved by the Board;

(xii) sell, assign, transfer, lease, sublicense, abandon, permit to lapse or otherwise dispose of, or agree to sell, assign, transfer, lease, sublicense, abandon, permit to lapse or otherwise dispose of, any of the Company's rights in, to, or under the Protiva License or any of Protiva's rights in the capital stock of the Company;

(xiii) acquire (by merger, consolidation or combination, or acquisition of stock or assets) any corporation, partnership or other business organization or division or material portion of the assets thereof, except acquisitions of inventory and supplies in the ordinary course of business consistent with past practice;

(xiv) make any change in any method of financial accounting or financial accounting practice used by the Company, other than such changes as are required by GAAP;

(xv) except in accordance with generally accepted accounting principles in Canada, consistently applied, make any change to (1) the Company's normal month to month accounting practices and policies, including those relating to the collection of accounts receivable, the payment of accounts payable or other similar Liabilities of the Company or (2) the application of such policies;

(xvi) (1) hire any employee, (2) enter into or amend any employment, deferred compensation, severance or similar contract, (3) incur any obligation to compensate any member of the Board or officer of the Company, (4) pay or make provision for the payment of any bonus, profit sharing, deferred compensation, pension, retirement, severance or other similar payment or arrangement to any employee, or any member of the Board, officer of the Company or any of its Affiliates, (5) adopt any employee benefit plan, or (6) make any loans to any officer, member of the Board, Affiliate, agent, representative or consultant of the Company (other than advances to cover business expenses in the ordinary course of business) or make any change in any existing borrowing or lending arrangement for or on behalf of any of such Persons;

(xvii) amend the Company's organizational documents;

(xviii) make any loans, advances or capital contributions to, or investments in, any other Person, other than advances to cover business expenses in the ordinary course of business;

(xix) liquidate, dissolve or effect a recapitalization or reorganization in any form of transaction;

(xx) (1) declare or pay any dividends on, or make any other distributions (whether in cash, stock or property) in respect of, any securities, (2) split, combine or reclassify any of its securities, (3) effect a recapitalization, (4) issue or authorize the issuance of any other securities in respect of, in lieu of or in substitution for units, equity interests or similar interests, or (5) except as contemplated by this Agreement, repurchase or otherwise acquire or offer to redeem or otherwise acquire, directly or indirectly, any units, equity interests or similar interests;

(xxi) create, incur, assume, suffer to exist or otherwise be liable with respect to any debt other than on terms that allow for prepayment at any time;

(xxii) commence, settle, or offer or propose to settle, any (1) material action, or (2) action that relates to the transactions contemplated by this Agreement;

(xxiii) enter into, or allow any Affiliate to enter into any agreement, license or other similar arrangement that restricts the Company's performance of its obligations under the Transaction Agreements; or

(xxiv) authorize, commit, enter into or offer to enter into, any contract or agreement to take or cause to be taken any of the actions prohibited by this Section 7(d).

(e) Payment of Taxes, Etc. The Company shall, and Protiva shall cause the Company and each of its subsidiaries to, and the Company shall cause each of its subsidiaries to: (i) timely file all required Tax Returns as they become due (taking all timely filed proper extension requests into account); (ii) ensure that all such Tax Returns are true, correct and complete in all material respects; and (iii) timely pay and discharge, as they become due and payable, all Taxes (other than Taxes contested in good faith by the Company or its subsidiaries in appropriate proceedings), assessments and other governmental charges or levies imposed upon the Company or its subsidiaries, their income, or any property of the Company or its subsidiaries as well as all claims of any kind (including claims for labor, materials and supplies) that, if unpaid, may by law become a Lien or charge upon the properties of the Company or its subsidiaries.

(f) Material Contracts. Protiva shall cause the Company not to and the Company shall not enter into, or extend, any material contract or commitment during the Call Period to the extent that the exercise of the Call Option or the consummation of the Closing could require the consent of the counterparty, result in a breach or violation of such contract, or otherwise require the payment of any fees or expenses in connection therewith, or give the other party the right to accelerate any obligations of the Company or such subsidiary thereunder or to cause the termination of such contract.

(g) No Shop. Until this Agreement has been terminated in accordance with its terms: (i) neither the Company nor Protiva will, nor will the Company or Protiva authorize or permit any of their respective officers, directors, Affiliates or employees, or any investment banker, attorney or other advisor or representative retained by them to directly or indirectly, (A) solicit, initiate or induce the making, submission or announcement of any Acquisition Proposal, (B) participate in any discussions or negotiations regarding, or furnish to any Person any "non-public" information with respect to, or take any other action to facilitate any inquiries or the making of any proposal that constitutes, or may reasonably be expected to lead to, any Acquisition Proposal, (C) engage in discussions with any Person with respect to an Acquisition Proposal, except as to disclose the existence of these provisions, including in response to any initial unsolicited expression of an Acquisition Proposal, (D) endorse or recommend any Acquisition Proposal, or (E) enter into any letter of intent or document or any contract, agreement or commitment contemplating or otherwise relating to any Acquisition Proposal; and (ii) the Company and Protiva will promptly notify Monsanto Canada of the receipt after the Effective Date of any proposal relating to an Acquisition Proposal or of any request for information relating to the Company or for access to the properties, books or records of the Company by any Person who has informed the Company or Protiva that such Person is considering making, or has made, an Acquisition Proposal, and the Company and Protiva will promptly provide Monsanto Canada with a summary of any documents received relating to an Acquisition Proposal and will keep Monsanto Canada informed regarding the status and details of any such Acquisition Proposal. "**Acquisition Proposal**" means any offer or proposal relating to any Acquisition Transaction. "**Acquisition Transaction**" means (1) any transaction or series of related transactions, other than the transactions contemplated by this Agreement, involving the purchase of all or a majority of the units or equity interests or assets of the Company or the purchase, acquisition, or sublicense of any right, title or interest of the Company in, to, or under the PadCo-Protiva License and Services Agreement, (2) any agreement to enter into a business combination with the Company, and (3) any agreement made, other than in the ordinary course of business, with regard to the Protiva Intellectual Property that would result in the transfer of the Protiva License from the Company to a third Person. For the avoidance of doubt, (x) an offer or proposal relating to purchase or sale of Protiva or Arbutus (including by sale of equity, merger, asset transaction or other business combination) shall not be an Acquisition Proposal or (y) the purchase or sale of Protiva or Arbutus (including by sale of equity, merger, asset transaction or other business combination) shall not be an Acquisition Transaction.

(h) Disclosure Schedule and Supplement. Attached hereto at Exhibit F is a schedule of disclosures and exceptions to the representations and warranties made by the Company and Protiva in Section 4 and Section 5 hereof as of the Effective Date (the "**Disclosure Schedule**"). As soon as reasonably practicable, and in any event no later than ten (10) Business Days following delivery to the Company by Monsanto Canada from time to time of a request in writing for Amended Disclosure Schedules at any time when Monsanto Canada has a good faith intention to exercise the Call Option, Protiva and the Company shall prepare and deliver to Monsanto Canada an updated schedule of disclosures and exceptions to the representations and warranties of the Company and Protiva contained in Section 4 and Section 5 hereof (the "**Amended Disclosure Schedule**"), as if such representations and warranties were made as of the date of such Amended Disclosure Schedule, except to the extent any such representations and warranties refer expressly to an earlier date. Protiva shall deliver the Amended Disclosure Schedule to Monsanto Canada as soon as reasonably practicable, and in any event no later than ten (10) Business Days following delivery to the Company by Monsanto Canada from time to time of a request in writing for Amended Disclosure Schedules at any time when Monsanto Canada has a good faith intention to exercise the Call Option. For the avoidance of doubt, in the Amended Disclosure Schedule, Protiva may schedule disclosures and exceptions to any representation and warranty made herein regardless of whether Protiva or the Company has taken exception to such representation and warranty in this Agreement as of the Effective Date so long as the Amended Disclosure Schedule refer only to disclosures of actual, specific facts or events in existence on the date of such Amended Disclosure Schedule that have occurred or been discovered since the Effective Date. Notwithstanding the foregoing, no disclosure of a fact or event on the Amended Disclosure Schedule shall be deemed to cure any failure to disclose such fact or event on any previously delivered Disclosure Schedule (or Amended Disclosure Schedule, if any), or otherwise amend any previously delivered Disclosure Schedule (or Amended Disclosure Schedule, if any); provided, however, the exceptions set forth on the Amended Disclosure Schedule shall be deemed to be part of the representations and warranties made as of such date and any item disclosed or otherwise set forth on the Disclosure Schedule or Amended Disclosure Schedule shall qualify such representations and warranties disclosed against in such schedules.

(i) Third Party Consents and Regulatory Approvals. Upon exercise of the Call Option, the parties hereto shall cooperate with each other and use reasonable best efforts to promptly achieve the closing conditions set forth in Section 8, including to (i) prepare and file all necessary documentation, to effect all applications, notices, petitions and filings as soon as reasonably practicable, to obtain as promptly as reasonably practicable all permits, consents, approvals, authorizations and clearances, which are necessary or advisable to consummate the Closing; (ii) defend any lawsuits or other legal proceedings, whether judicial or administrative, challenging this Agreement or the consummation of the transactions contemplated by this Agreement; and (iii) execute and deliver any additional instruments reasonably necessary to consummate the transactions contemplated by this Agreement.

(j) Monsanto Canada Director. During the Option Period, Protiva hereby agrees to vote, or cause to be voted, all the shares of capital stock of the Company now owned or which may hereafter be acquired by Protiva (the "**Company Shares**") in whatever manner as shall be necessary to ensure that at each annual or special meeting of stockholders of the Company or pursuant to any written consent of the stockholders of the Company (i) the individual designated by Monsanto Canada (the "**Monsanto Canada Director**") be elected to, and remain a member of, the Board, (ii) the Monsanto Canada Director is not removed from the Board (other than for cause) unless approved by Monsanto Canada, (iii) any vacancy created by the death, resignation, removal or otherwise of a Monsanto Canada Director be filled by an individual designated by Monsanto Canada, (iv) upon the request of Monsanto Canada, the Monsanto Canada Director be removed from the Board and (v) in the absence of a designation by Monsanto Canada of a Monsanto Canada Director, to retain one vacant seat on the Board until such time that Monsanto Canada designates a Monsanto Canada Director and to promptly elect such Monsanto Canada Director to the Board after such designation.

(k) Grant of Proxy. Protiva hereby appoints Monsanto Canada as the true and lawful attorney in fact, agent and proxy of Protiva to (i) represent Protiva, solely with respect to [***] of the Company Shares held by Protiva (the "**Proxy Shares**"), at any meeting of the stockholders of the Company, and at any postponements and adjournments of such meeting, (ii) execute on behalf of Protiva any written consent of the stockholders of the Company with respect to the Proxy Shares, and (iii) vote (or execute a written consent on behalf of) the Proxy Shares standing on the books of the Company in the name of Protiva. Protiva affirms that this irrevocable proxy is coupled with an interest and may not be revoked until this Agreement terminates. Protiva hereby covenants and agrees that Protiva shall not enter into any voting agreement or grant a proxy or power of attorney with respect to the Company Shares which is inconsistent with this Agreement. Protiva also hereby agrees that, until the Call Period has expired without the Call Option having been exercised, or this Agreement has been terminated in accordance with its terms, it will not, without the prior written consent of Monsanto Canada (i) grant or enter into any Liens, proxies or powers of attorney (other than as granted herein) with respect to the voting of the Company Shares, or deposit any Company Shares into a voting trust or enter into a voting agreement with respect to any Company Shares, or any interest in any of the Company Shares, except to Monsanto Canada, (ii) sell, assign, transfer, encumber or otherwise dispose of, or enter into any contract, option or other arrangement or understanding with respect to the direct or indirect sale, assignment, transfer, encumbrance or other disposition of any of the Company Shares, or (iii) take any action that would have the effect of limiting, preventing or disabling Protiva from performing its obligations hereunder or the transactions contemplated hereby.

(l) Confidential Information.

(i) Each party agrees that, for itself and its Affiliates, until the first to occur of (a) [***] or (b) [***], a Receiving Party shall maintain all Confidential Information of the Disclosing Party in strict confidence and shall not (x) disclose Confidential Information to any third party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted below or (y) use Confidential Information for any purpose except those explicitly licensed or otherwise authorized or permitted by this Agreement or any other Transaction Agreement.

(ii) The obligations in Section 7(m) will not apply with respect to any portion of the Confidential Information that the Receiving Party can show by competent proof: (a) was known to the Receiving Party or its Affiliates, without any obligation to keep it confidential or any restriction on its use, prior to disclosure by the Disclosing Party; (b) is subsequently disclosed to the Receiving Party or its Affiliates by a Third Party lawfully in possession thereof and without any obligation to keep it confidential or any restriction on its use; (c) is or otherwise becomes generally available to the public or enters the public domain, either before or after it is disclosed to the Receiving Party and such public availability is not the result, directly or indirectly, of any fault of, or improper taking, use or disclosure by, the Receiving Party or its Affiliates or anyone working in concert or participation with the Receiving Party or its Affiliates; or (d) has been independently developed by employees or contractors of the Receiving Party or its Affiliates without the aid, application or use of Confidential Information of the Disclosing Party. Specific Confidential Information disclosed by a Disclosing Party will not be deemed to be within any exceptions set forth in (a), (b), or (c) above merely because it is embraced by more general information to which one or more of those exceptions may apply and provided further that no combination of information shall be deemed to be within any such exceptions unless the combination itself and its principle of operation are within the public domain. Even though Confidential Information may be within one of the exceptions described in the preceding sentence, the Receiving Party shall not disclose to third parties that the excepted Confidential Information was received from the Disclosing Party. If the Closing occurs, then effective as of the Effective Date, references in (a), (b) and (d) to "Affiliates" shall not include the Company or any subsidiaries of the Company with respect to Protiva as the Receiving Party.

(iii) Confidential Information of a Disclosing Party may be used by the Receiving Party in the performance of its obligations under any Transaction Agreement, as otherwise expressly authorized in any Transaction Agreement or by the Disclosing Party in writing.

(iv) The Receiving Party may disclose Confidential Information belonging to the Disclosing Party to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances: (a) subject to the proviso below, by any party, in order to comply with applicable non-patent law (including any securities law or regulation or the rules of a securities exchange in a relevant jurisdiction) and with judicial process, if based on the reasonable advice of the Receiving Party's counsel, such disclosure is necessary for such compliance; (b) subject to the proviso below, by any party, in connection with prosecuting or defending litigation; (c) by any party in connection with filing and prosecuting Protiva Project Patent or Joint Project Patent, only in a manner that complies with such party's rights and obligations in connection with such matters as set out in the Transaction Agreements; (d) subject to the proviso below, by the Company, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial information related thereto) and each of the Company's and its Affiliates' respective directors, employees, contractors and agents; (e) subject to the proviso below, by Monsanto, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial

information related thereto) and each of Monsanto's and its Affiliates' respective directors, employees, contractors and agents; and (f) subject to the proviso below, by Protiva, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial information related thereto) and Protiva's and its Affiliates' respective directors, employees, contractors and agents, provided, that (x) with respect to clause (a) and (b) where reasonably possible, (1) the Receiving Party will notify the Disclosing Party of the Receiving Party's intent to make any disclosure pursuant thereto sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) consistent with applicable law or regulation, the Disclosing Party shall have the right to suggest reasonable changes to the disclosure to protect its interests and the Receiving Party shall not unreasonably refuse to include such changes in its disclosure, and (x) with respect to clause (d), (e) and (f), each Person to whom Confidential Information is disclosed must be bound prior to disclosure by confidentiality and non-use restrictions at least as restrictive as those contained in this Agreement (other than investment bankers, investors and lenders, who must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

(v) No party shall use the name of any other party or of any director, officer, employee, or agent of any other party or any adaptation thereof in any advertising, promotional or sales literature, publicity or in any document employed to obtain funds or financing without the prior written approval of such party or individual whose name is to be used.

(m) Financial Reporting.

(i) With respect to any period that Monsanto Canada determines it is required to consolidate the financial position and results of operations of the Company for financial account purposes or otherwise desires to audit the financial statements provided by the Company pursuant to Section 7(m)(ii), Monsanto Canada shall be entitled (at its own expense) to access such books and records of the Company as may be required to perform (or cause to be performed) an audit of the Company's financial position and results of operations for such period. Such access shall be provided on a timely basis at reasonable times, during normal business hours, and shall be made available to Monsanto Canada and any third-party accounting firm or other agent designated by Monsanto Canada. In connection with such review, Protiva shall cause the Company to make and the Company shall make, and shall cause any officers of the Company to make, such representations regarding the Company's financial position, results of operations, books and records and accounting controls as may be reasonably requested by such third-party accounting firm in the performance of any such audit of the Company's financial position and results of operations.

(ii) In addition to its obligations under Section 7(m), the Company shall deliver to Monsanto Canada as soon as practicable, but in any event not later than the thirtieth (30^{th}) calendar day after each calendar month of the Company (or the sixtieth (60^{th}) calendar day following December 31): (i) unaudited financial statements (balance sheet, income statement, statement of members' equity and statement of cash flows) of the Company as of the end of such calendar month; (ii) copies of all agreements entered during the previous month that would reasonably be considered

material or that required Monsanto Canada's consent prior to entry pursuant to this Agreement or the Transaction Agreements; and (iii) copies of all minutes of meetings (or written consents executed in lieu thereof) of the Board held during such calendar quarter. In addition to its obligations under Section 7(m), the Company shall deliver to Monsanto Canada as soon as practicable, but in any event not later than the thirtieth (30^{th}) calendar day after each calendar quarter of the Company (or the sixtieth (60^{th}) calendar day following December 31), unaudited financial statements (balance sheet, income statement, statement of members' equity and statement of cash flows) of the Company as of the end of such calendar quarter. In addition to its obligations under Section 7(m), the Company shall deliver to Monsanto Canada as soon as practicable, but in any event not later than the thirtieth (30^{th}) calendar day after each calendar year of the Company (or the sixtieth (60^{th}) calendar day following December 31), unaudited financial statements (balance sheet, income statement, statement of members' equity and statement of cash flows) of the Company as of the end of such calendar year.

(iii) The Company shall provide Monsanto Canada the opportunity to discuss any financial data delivered pursuant to this Section 7(m) with the Company's management (including the Board) at such times as may be mutually agreed upon between the Company and Monsanto Canada. Monsanto Canada acknowledges and agrees that it will keep all information received pursuant to this Section 7(m) confidential in accordance with Section 7(m).

(iv) Protiva shall provide to Monsanto Canada copies of all of the Company's Tax Returns within thirty (30) calendar days after filing with the relevant Governmental Authority.

(n) Notification of Certain IP Matters. Protiva shall provide to the persons then serving as the Monsanto Canada members of the JRC, not less often than once per quarter, notice and copies (if applicable) of: (1) all office actions, notices of allowance or allowability, or other substantive actions issued in connection with any Protiva Project Patent (each a "Substantive Action"); (2) all correspondence from counsel (including foreign associates) explaining or providing guidance or recommendations regarding a Substantive Action; (3) a pre-filing draft of all Protiva Project Patent applications and responses to Substantive Actions that will or may be filed after the Effective Date as directed by the JRC in its exercise of its authority to oversee the filing, prosecution and maintenance of such Patents, revised drafts as directed by the JRC, and a copy of each Protiva Project Patent application, application and response to Substantive Action as filed; (4) all Protiva Project Inventions and invention disclosures received or prepared by Protiva directed to any Protiva Project Invention; and (5) the due date of any maintenance, annuity, or similar payment required

to maintain or otherwise prevent the abandonment, expiration, or cancellation of any Protiva Project Patent, provided that such notice is given to such members of the JRC not less than 30 days prior to such due date; and, further, Protiva shall provide, in a timely manner, any of the foregoing information to the JRC that is required for the JRC to make a decision regarding a Protiva Project Patent application. For the avoidance of doubt, any Confidential Information of Protiva (as the Disclosing Party) included in such disclosures shall be subject to the provisions of Section 7(m); in addition, prior to Closing the following additional provisions shall apply: (i) the recipients of such information shall use such Confidential Information solely in connection with the performance of their duties as members of the JRC to consult with Protiva regarding whether to file Patents for Protiva Project Inventions and the prosecution, maintenance and/or abandonment of Protiva Project Patents and, for such purposes only, may disclose such Confidential Information only to such representatives of Monsanto or Monsanto Canada who (A) are bound by non-disclosure obligations with respect to such information at least as restrictive as those contained in Section 7(l) and this Section 7(m), (B) whose input such members of the JRC deem useful for such purposes (i.e., disclosure to representatives on a need to know basis only), and (C) who are either (i) a senior officer of Monsanto (e.g., the Vice President, Chemistry Technology) or (ii) Monsanto's internal legal counsel.

(o) Certain Business Practices Covenant. None of the Company, Arbutus or Protiva, or any of its other Affiliates or any Board Member or officer of the Company or any of its Affiliates, or any consultant, agent, employee or other Person acting for or on behalf of the Company or any of its Affiliates, will (A) use any funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity in respect of the Company Business; (B) directly or indirectly, pay or deliver any fee, commission or other sum of money or item of property, however characterized, to any finder, agent, or other party acting on behalf of or under the auspices of a governmental official or Governmental Authority which is in any manner illegal under any Laws of the United States or any other country having jurisdiction; or (C) make any payment to any customer or supplier of the Company, or given any other consideration to any such customer or supplier in respect of the Company Business that violates applicable Law in any material respect. Without limiting the foregoing, none of the Company, Protiva, Arbutus or any of its other Affiliates or any Board Member or officer of the Company or any of its Affiliates, or any consultant, agent, employee or other Person acting for or on behalf of the Company or any of its Affiliates, will, directly or indirectly, take any action that would result in a violation by such Persons of the FCPA, UK Bribery Act or the Corruption of Foreign Public Officials Act (Canada), or any rules or regulations thereunder or any other applicable anti-corruption Law, including: (x) by making use of the mails or any means or instrumentality of interstate commerce in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or offer, gift, promise to give, or authorization of the giving of anything of value, directly or indirectly, to any "foreign official" (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office to secure official action, or to any Person (whether or not a foreign official) to influence that Person to act in breach of a duty of good faith, impartiality or trust ("acting improperly") or to reward the Person for acting improperly, in contravention of the

FCPA, the UK Bribery Act or the Corruption of Foreign Public Officials Act (Canada) or any other applicable anticorruption Law, (y) by requesting, agreeing to receive or accepting a financial or other advantage intending that, as a consequence, anyone's work duties will be performed

improperly, or as a reward for anyone's past improper performance, or (z) by otherwise offering or conveying, directly or indirectly (such as through an agent), anything of value to obtain or retain business or to obtain any improper advantage, including any bribe, rebate, payoff, influence payment, kickback or other similar unlawful payment to a foreign government official, candidate for office, or political party or official of a political party. The Company and each of its Affiliates will conduct their respective businesses in compliance with all applicable anti-corruption Laws, including the FCPA, the UK Bribery Act and the Corruption of Foreign Public Officials Act (Canada), and the Company and each of its Affiliates will institute and maintain policies and procedures designed to cause each such Person to comply with all applicable anti-corruption Laws, including the FCPA, the UK Bribery Act and the Corruption of Foreign Public Officials Act (Canada).

(p) Export Controls Covenant. The Company will comply in all material respects with the export control Laws and regulations of the United States and Canada, including but not limited to the Export Administration Regulations, and sanctions regimes of the U.S. Department of Treasury, Office of Foreign Asset Controls, and the Area Control List and sanctions regimes of Global Affairs Canada and the Company will not export, reexport, or transfer products, materials, software and/or technology, either directly or indirectly, without prior U.S. or Canadian government authorization (as the case may be), to (i) any country subject to a comprehensive U.S. trade embargo (currently Cuba, Iran, North Korea, Sudan, and Syria) or a comprehensive Canada trade embargo (currently North Korea and Belarus) or to any Person listed on the "Entity List" or "Denied Persons List" maintained by the U.S. Department of Commerce or the list of "Specifically Designated Nationals and Blocked Persons" maintained by the U.S. Department of Treasury, or (ii) any end-user engaged in activities related to weapons of mass destruction. Such activities include but are not necessarily limited to activities related to: (x) the design, development, production, or use of nuclear materials, nuclear facilities, or nuclear weapons; (y) the design, development, production, or use of missiles or support of missiles projects; and (z) the design, development, production, or use of chemical or biological weapons.

(q) PadCo-Protiva License and Services Agreement. None of Arbutus, Protiva or the Company shall amend the PadCo-Protiva License and Services Agreement in any respect without the prior written consent of Monsanto Canada.

(r) Arbutus. Within five (5) Business Days of execution of the PadCo-Protiva License and Services Agreement, Arbutus shall transfer to the Company the [***] Class A Common Share held by Arbutus.

8. Closing Conditions.

(a) Conditions of Monsanto Canada. Monsanto Canada's obligation to consummate the Closing is subject to the satisfaction, at or prior to the Closing, of each of the following conditions (any of which may be waived in writing by Monsanto Canada, in whole or in part, in its sole discretion):

(i) Exercise of Call Option. Monsanto Canada shall have exercised the Call Option in accordance with the terms of this Agreement;

(ii) Representations and Warranties Regarding the Company and Protiva. The representations and warranties set forth in Section 4 that are qualified by materiality or Material Adverse Effect and the Fundamental Representations shall be true and correct in all respects as of the Effective Date and as of the Closing Date as though made on the Closing Date (except that those representations and warranties that are made as of a specific date, which need be true and correct only as of such date). The representations and warranties set forth in Section 4 (other than the Fundamental Representations) that are not qualified by materiality or Material Adverse Effect shall be true and correct in all material respects as of the Effective Date and as of the Closing Date as though made on the Closing Date (except that those representations and warranties that are made as of a specific date need only be so true and correct as of such date);

(iii) Representations and Warranties Regarding Protiva and Arbutus. The representations and warranties set forth in Section 5 shall be true and correct in all respects as of the Closing Date as though made on the Closing Date;

(iv) Covenants. The covenants and agreements set forth in this Agreement to be performed or complied with or by the Company and/or Protiva and/or Arbutus at or prior to the Closing shall have been performed or complied with by the Company or Protiva or Arbutus, as applicable, in all material respects. The covenants and agreements set forth in Section 7(q) and Section 7(r) shall have been performed or complied with by the Company or Protiva or Arbutus, as applicable, in all respects;

(v) No Governmental Order. (A) No Governmental Authority shall have enacted, issued, promulgated, enforced or entered any Governmental Order or Law which is in effect or shall have initiated (which is continuing) any action that has the effect of making (or is seeking to make) the transactions contemplated by this Agreement illegal or otherwise has the effect of restraining or prohibiting (or is seeking to restrain or prohibit) the consummation thereof; and (B) all actions by or in respect of or filings with any Governmental Authority required to permit the consummation of the Closing in accordance with the terms hereof shall have been obtained (other than those actions or filings that may, by their terms, be made after such Closing or which, if not obtained or made prior to the consummation of the transactions contemplated hereby, would not have a Material Adverse Effect on the Company or Protiva prior to or after the Closing or a material adverse effect on Monsanto Canada after the Closing or be reasonably likely to subject Monsanto Canada or any of its subsidiaries or any of their respective officers or directors to substantial penalties or criminal liability);

(vi) No Material Adverse Effect. No change, event, circumstance, development, occurrence or effect shall have occurred or been discovered since the Exercise Date and be continuing as of the Closing Date that, individually or taken together with any other change, event, circumstance, development, occurrence or effect, has had or would reasonably be expected to have a Material Adverse Effect;

(vii) Officer's Certificates. Monsanto Canada shall have received an officer's certificate from each of the Company and Protiva, dated as of the Closing Date, certifying as to the matters set forth in Sections 8(a)(ii), (iii), (iv) and (vi);

(viii) No Litigation. There shall be no Action pending against Monsanto Canada, Protiva or the Company or any of their respective Affiliates by any Governmental Authority (A) seeking to enjoin or make illegal, delay or otherwise restrain or prohibit the consummation of the Call Option; (B) that would result in the Call Option being rescinded following consummation; (C) seeking material damages in connection with the Call Option; (D) seeking to compel the Company or Monsanto Canada to dispose of or hold separate any material assets as a result of the Call Option; or (E) seeking to impose any criminal sanctions or liability on Monsanto Canada, Protiva or the Company in connection with the consummation of the Call Option;

(ix) Consents. The Company and Protiva shall have obtained the consent or approval of each Person whose consent or approval shall be required in connection with the consummation of the Closing under all notes, bonds, mortgages, indentures, contracts, agreements, leases, licenses, permits, franchises and other instruments or obligations to which it is a party; and

(x) PadCo-Protiva License and Services Agreement. The PadCo-Protiva License and Services Agreement shall be in full force and effect and all representations and warranties set forth in the PadCo-Protiva License and Services Agreement shall be true and correct as of the Closing Date as though made on the Closing Date and shall continue to inure to the benefit of the Company, if Monsanto Canada acquires all of the outstanding capital stock of the Company, or Monsanto Canada as assignee of all of the Company's right, title, and interest in, to, and under the Protiva License, if Monsanto Canada acquires the PadCo-Protiva License and Services Agreement and the Protiva License.

(b) Conditions of Protiva. The obligation of Protiva to consummate the Closing is subject to the satisfaction, at or prior to the Closing, of each of the following conditions (any of which may be waived in writing by Protiva, in whole or in part, in its sole discretion):

(iii) Representations and Warranties. The representations and warranties of Monsanto Canada set forth in Section 6 shall be true and correct as of the Closing Date as though made on the Closing Date;

(iv) Covenants. The covenants and agreements set forth in this Agreement to be performed or complied with Monsanto Canada at or prior to the Closing shall have been performed or complied with in all material respects;

(v) No Governmental Order. (A) No Governmental Authority shall have enacted, issued, promulgated, enforced or entered any Governmental Order or Law which is in effect or shall have initiated (which is continuing) any action that has the effect of making (or is seeking to make) the transactions contemplated by this Agreement illegal or otherwise has the effect of restraining or prohibiting (or is seeking to restrain or prohibit) the consummation thereof; and (B) all actions by or in respect of or filings with any Governmental Authority required to permit the consummation of the Closing in accordance with the terms hereof shall have been obtained (other than those actions or filings that may, by their terms, be made after such Closing, or which, if not obtained or made prior to the consummation of the transactions contemplated hereby, would not have a Material Adverse Effect on the Company prior to or after the Closing or a material adverse effect on Protiva after the Closing or be reasonably likely to subject Protiva or any of its subsidiaries

or any of their respective officers or member of the Board to substantial penalties or criminal liability); and

(vi) No Litigation. There shall be no Action pending against Monsanto Canada, Protiva or the Company or any of their respective Affiliates by any Governmental Authority (A) seeking to enjoin or make illegal, delay or otherwise restrain or prohibit the consummation of the Call Option; (B) that would result in the Call Option being rescinded following consummation; (C) seeking material damages in connection with the Call Option; (D) seeking to compel the Company or Monsanto Canada to dispose of or hold separate any material assets as a result of the Call Option; or (E) seeking to impose any criminal sanctions or liability on Monsanto Canada, Protiva or the Company in connection with the consummation of the Call Option.

9. Termination.

(a) Breach by Company or Protiva. Monsanto Canada may terminate this Agreement within the twenty (20) day period following the Company Cure Period if there is a material breach of any representation, warranty, covenant or obligation of the Company or Protiva that (i) would give rise (in the case of a breach of a representation or warranty) to a failure of the condition set forth in Sections 8(a)(ii) and 8(a)(iii) to be satisfied, and (ii) if susceptible to cure, has not been cured within thirty (30) days following receipt by Protiva of written notice thereof from Monsanto Canada (the "**Company Cure Period**"); provided, that this Agreement shall in no event terminate under this Section 9(a) if Monsanto Canada is then in material breach of any of its obligations under this Agreement.

(b) Breach of This Agreement by Monsanto Canada. Protiva may terminate this Agreement within the twenty (20) day period following the Monsanto Canada Cure Period if there is a material breach of any representation, warranty, covenant or obligation of Monsanto Canada that (i) would give rise to a failure of the condition set forth in Section 8(b)(i) to be satisfied (in the case of a breach of a representation or warranty), and (ii) if susceptible to cure, has not been cured within thirty (30) days following receipt by the Monsanto Canada of written notice thereof from Protiva (the "**Monsanto Canada Cure Period**"); provided, that this Agreement shall in no event terminate under this Section 9(b), if the Company or Protiva is in material breach of any of their obligations under this Agreement.

(c) Acquisition of Protiva or Arbutus by a Principal Competitor. Monsanto Canada may terminate this Agreement immediately upon written notice to Protiva in the event of a Change of Control of Protiva or Arbutus to a Principal Competitor.

(d) Phase A. Monsanto Canada may terminate this Agreement upon delivery by Monsanto Canada to Protiva of (i) written notice of termination at any time during Phase A and (ii) [***] by electronic wire as arranged with Protiva. Notwithstanding the foregoing, if Phase B is initiated by Monsanto Canada, Monsanto Canada shall not be entitled to terminate this Agreement pursuant to this Section 9(d).

(e) Phase B. Monsanto Canada may terminate this Agreement upon delivery by Monsanto Canada to Protiva of (i) written notice of termination at any time during Phase B and (ii) [***] by electronic wire as arranged with Protiva. Notwithstanding the foregoing, if Phase C is initiated by Monsanto Canada, Monsanto Canada shall not be entitled to terminate this Agreement pursuant to this Section 9(e).

(f) Phase C. Monsanto Canada may terminate this Agreement upon delivery by Monsanto Canada to Protiva of (i) written notice of termination at any time during Phase C and (ii) Protiva [***], by electronic wire as arranged with Protiva.

(g) Survival. The provisions of Sections 1 (Definitions), 7(l) (Confidential Information), 9(h) (Survival), 11 (Indemnification) and 12 (Miscellaneous) shall survive the termination of this Agreement and shall remain in full force and effect.

(h) Rights Upon Termination. For clarity, if this Agreement terminates and the Closing has not occurred prior to such termination: (a) Monsanto will relinquish its seat(s) on the Board, and (b) the Company and Protiva shall have the right to amend or terminate the PadCo-Protiva License and Services Agreement in such manner as they may deem appropriate and Monsanto shall no longer be a third party beneficiary of the PadCo-Protiva License and Services Agreement.

(i) Rights and Obligations Upon Termination of the Original Option Agreement. Notwithstanding anything in this Agreement to the contrary and notwithstanding the replacement of the Original Option Agreement with this Agreement, none of the parties hereto shall be relieved from liability for any breach of the Original Option Agreement prior to the date hereof.

10. Certain Covenants.

(a) Reporting. From the Closing Date until the date after which Protiva is not eligible to receive any further Commercial Milestone Payments, upon the written request of Protiva, Monsanto Canada shall provide Protiva by December 31 of each calendar year with an annual summary report of the status of any Commercialization activities of Monsanto Canada or any of its Affiliates or sublicensees with respect to any Product being developed by Monsanto Canada or any of their Affiliates. For the avoidance of doubt, all reports and other information provided by Monsanto Canada to Protiva pursuant to this Section 10(a) shall constitute "Confidential Information" and shall be kept confidential in accordance with the applicable provisions of Section 7(l). Monsanto Canada shall provide Protiva with written notice of the achievement by Monsanto Canada or the Company of the criteria for which a Commercial Milestone Payment is to be paid to Protiva, no later than five (5) Business Days after the occurrence thereof.

(b) Exclusivity. During the Call Period and the Exclusivity Period, other than as specifically contemplated by the Research Plan, none of Arbutus, Protiva (and, during the Call Period, the Company), nor any of their respective Affiliates shall, directly or indirectly, alone or with any third Person, conduct or facilitate the conduct of any research, Development (as defined in the PadCo-Protiva License and Services Agreement) or Commercialization activities with respect to, or undertake to Develop (as defined in the PadCo-Protiva License and Services Agreement), any molecule intended for formulation and delivery of RNAi to plants and insects or other applications for use in the Agricultural Field, including through the license of any Intellectual Property to enable such action. Notwithstanding the foregoing, if a Person acquires Arbutus or Protiva and such Person (i) has a valuation of greater than [***] and (ii) is not a Principal Competitor, then such Person shall be permitted to continue to operate its existing operations without regard to the restrictions set forth in this Section 10(b).

11. Indemnification. The indemnification obligations of the parties hereto are set forth in Section 11 of Appendix A to this Agreement.

12. Miscellaneous.

(a) Further Assurances. If Monsanto Canada exercises the Call Option in accordance with the terms of this Agreement, from time to time and without additional consideration, but at the requesting party's expense, the parties will execute and deliver, or cause to be executed and delivered, such additional or further agreements, transfers, assignments, endorsements, consents and other instruments as may be reasonably request for the purpose of effectively carrying out the transactions contemplated by this Agreement, including the Closing, the transfer of the Protiva License, the Company Owned Intellectual Property and any other Company Licensed Intellectual Property, if any, or the outstanding capital stock of the Company to Monsanto Canada and the release of any and all liens, claims and encumbrances with respect thereto, and will use commercially reasonable efforts to take, or cause to be taken, all actions, and to do, or cause to be done, all things necessary so as to permit consummation of the transactions contemplated hereunder prior to the Closing Date.

(b) Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or: (i) personal delivery to the party to be notified, (ii) when sent, if sent by facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next Business Day, (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (iv) one (1) Business Day after deposit with a nationally recognized overnight courier, freight prepaid, specifying next Business Day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their address as set forth on the signature page, or to such facsimile number or address as subsequently modified by written notice given in accordance with this Section 12(b). If notice is given to the Company or Protiva, a copy (which shall not constitute notice) shall also be sent to Orrick, Herrington & Sutcliffe LLP, 51 West 52nd Street, New York, NY 10019, Attn: R. King Milling, Jr. (Fax: (212) 506-5151). If notice is given to Monsanto Canada, a copy (which shall not constitute notice) shall also be sent to Bryan Cave LLP, One Metropolitan Square, 211 North Broadway, Suite 3600, St. Louis, Missouri 63102, Attn: C. Brendan Johnson (Fax: (314) 552-8438).

(c) Entire Agreement. This Agreement (including the Exhibits hereto) and the other Transaction Agreements constitute the entire agreement of the parties with respect to the matters contemplated herein and therein. This Agreement and the other Transaction Agreements supersede any and all prior understandings as to the subject matter herein and therein.

(d) Amendments, Waivers and Consents. This Agreement may be amended only by an instrument in writing, signed by each of Monsanto Canada and Protiva. Any provisions of this Agreement may be waived if the party seeking waiver obtains the written consent of all of the affected parties.

(e) Binding Effect; Assignment. This Agreement shall be binding upon and inure to the benefit of the personal representatives and successors of the respective parties hereto and shall not be assignable by Protiva or the Company without the express written consent of the other parties hereto.

(f) Public Announcements. Except as required by Law or by a Governmental Authority (including the rules and regulations of any stock exchange or trading market on which a party's (or its parent entity's) securities are traded) or as permitted by the following sentence, none of the Company, Protiva, or Monsanto Canada, nor any of their respective Affiliates or any of their respective officers, directors, employees, agents, and representatives, as applicable, shall issue or cause the publication of any press release or other public announcement with respect to the transactions contemplated by this Agreement without the prior written consent of the other parties hereto, which consent shall not be unreasonably withheld, conditioned or delayed. In connection with the execution and delivery of this Agreement, the parties agree to publication of the press release in the form attached hereto as Exhibit G and agree that each party shall be permitted to continue to use such press release, including the specific content contained therein, for any purposes without the need to obtain the prior written consent of the other parties hereto.

(g) General. The headings contained in this Agreement are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement. In this Agreement the singular includes the plural, the plural the singular, the masculine gender includes the neuter, masculine and feminine genders. All dollar amounts are expressed in U.S. dollars.

(h) Severability. If any provision of this Agreement shall be found by any court of competent jurisdiction to be invalid or unenforceable, the parties hereby waive such provision to the extent that it is found to be invalid or unenforceable. Such provision shall, to the maximum extent allowable by law, be modified by such court so that it becomes enforceable, and, as modified, shall be enforced as any other provision hereof, all the other provisions hereof continuing in full force and effect.

(i) Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

(j) Governing Law; Jurisdiction. This Agreement shall be governed and interpreted in accordance with the substantive laws of the State of New York. In the event any action shall be brought to enforce or interpret the terms of this Agreement, the Parties agree that such action will be brought in the State or Federal courts located in New York, New York. Each of the Parties hereby irrevocably submits with regard to any action or proceeding for itself and in respect to its property, generally and unconditionally, to the nonexclusive jurisdiction of the aforesaid courts. Each of the Parties hereby irrevocably waives, and agrees not to assert, by way of motion, as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement, (a) any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason other than the failure to lawfully serve process, (b) that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise), and (c) to the fullest extent permitted by Applicable Law, that (i) the suit, action or proceeding in any such court is brought in an inconvenient forum, (ii) the venue of such suit, action or proceeding is improper, and (iii) this Agreement, or the subject matter hereof, may not be enforced in or by such courts.

(k) Joint Research Committee. As soon as practicable following the Effective Date, the parties will replace the representatives of the Company on the Joint Research Committee (the "**JRC**"), established pursuant to the Original Option Agreement, with representatives of Protiva such that, from and after the Effective Date, the JRC will be comprised of an equal number of representatives of Monsanto Canada and Protiva and will perform the matters expressly contemplated by this Section 12(k) to be performed by the JRC following exercise of the Call Option, Monsanto Canada and Protiva). Each of Monsanto Canada and Protiva, as applicable (each, a "**JRC Party**" and collectively, the "**JRC Parties**"), may replace its representatives on the JRC at any time upon written notice to the other party. The representatives of each JRC Party shall

collectively have one (1) vote on all matters to be decided by the JRC, and the JRC shall take all actions by unanimous vote. The JRC will meet at such times as are deemed reasonably necessary by the JRC Parties. Meetings of the JRC will be effective only if at least one (1) representative of each JRC Party is present or participating. Each JRC Party will be responsible for all of its own expenses of participating in the JRC meetings. The JRC Parties will endeavor to schedule meetings of the JRC at least six (6) months in advance; provided, that each JRC Party shall be permitted to call additional special meetings of the JRC on not less than ten (10) business days' notice. The JRC Parties will alternate in preparing the meeting agenda, and the JRC Party that was responsible for preparing the meeting agenda will act as facilitator or chair of the meeting, as well as prepare and circulate for review and approval by the other JRC Party written minutes of such meeting within thirty (30) days after such meeting. The JRC Parties will agree on the minutes of each meeting promptly, but in no event later than the next meeting of the JRC. The JRC, subject to and in accordance with the provisions of this Section 12(k) and Schedule 12(k), will (i) consult and/or make decisions (as provided in Schedule 12(k)) regarding filing of Patent protection in the Territory for Protiva Project Inventions and decisions regarding the prosecution, maintenance and/or abandonment of Protiva Project Patents in the Territory; (ii) make decisions regarding filing of Patent protection in the Territory for Joint Project Inventions and decisions regarding the prosecution, maintenance and/or abandonment of Joint Project Patents in the Territory; (iii) resolve disputes among the parties to the PadCo-Protiva License and Services Agreement or the Protiva-Monsanto Services Agreement regarding the appropriate course of action with respect to any JRC Joint IP Infringement Matter or JRC Protiva Project Infringement Matter; (iv) resolve disputes regarding whether the Post-Closing Milestones have been achieved or the Technology Transfer has been completed (if Monsanto Canada exercises the Call Option); (v) determine, within thirty (30) days following Protiva's delivery of the Data Package, whether the Company has met all requirements of Option Insect Phase C Completion Criteria and Option Plant Phase C Completion Criteria; and (vi) attend to such other matters as may be directed to the JRC by the Parties or under the terms of any Transaction Agreement. Each of the Parties shall provide the JRC with copies of all substantive communications (including a copy of the patent application as filed, and copies of all communications from the relevant patent office, and responses thereto) in connection with each patent application that is a Joint Project Patent and shall provide the JRC with periodic updates in respect of the status of any pending application for a Joint Project Patent; the members of the JRC shall review and comment on all drafts of Joint Project Patents. In the event there is a dispute among the members of the JRC regarding any matter to be handled by the JRC, e.g., in the event the members of the JRC are unable to reach a unanimous decision regarding such matter within a reasonable time (wherein such reasonable time may be determined by any one member of the JRC), then such member or members may initiate the appropriate dispute resolution process (as described below) by written notice to the other members of the JRC and such other persons who will be involved in such dispute resolution process (as described below). The processes for resolving such disputes are as follows:

(i) *Milestone and Technology Transfer Disputes.* In the event of a dispute relating to whether certain Milestones have been met or whether the Technology Transfer has been completed in accordance with the Technology Transfer Completion Criteria, the Chief Executive Officer of Protiva and the Vice President of Chemistry of Monsanto shall use commercially reasonable efforts for a period of 20 days (or such longer period as they may mutually agree) to

resolve any such dispute. If, at the end of such period (the "**Dispute Negotiation Period**"), they are unable to resolve such dispute, then the matter shall be resolved in accordance with Section 12(k)(iv).

(ii) *Patent Matters Disputes.* Any disputes regarding Patent prosecution matters or patent strategies shall be resolved in the manner set forth on Schedule 12(k).

(iii) *Infringement Matter Dispute.* Any dispute relating to a JRC Joint IP Infringement Matter or JRC Protiva Project Infringement Matter shall be referred to Independent IP Counsel for a recommendation, which recommendation shall be delivered to the Chief Executive Officer of Protiva and the Vice President of Chemistry of Monsanto within 10 days following such referral. During the 10 day period immediately following receipt of Independent IP Counsel's recommendation, the Chief Executive Officer of Protiva and the Vice President of Chemistry of Monsanto shall use commercially reasonable efforts to resolve such dispute taking into consideration Independent IP Counsel's recommendation. If, at the end of such period, they are unable to resolve such dispute, then the Parties agree to proceed based on Independent IP Counsel's recommendation.

(iv) *Arbitration.* Any dispute relating to (A) whether certain Milestones or Post-Closing Milestones have been met or whether the Technology Transfer has been completed in accordance with the Technology Transfer Completion Criteria that has not been resolved in accordance with Section 12(k)(i), (B) whether the Company has completed Phase C or (C) the designation of the Independent IP Counsel, shall be settled by arbitration in New York, New York in accordance with the Commercial Arbitration Rules of the American Arbitration Association, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

(v) *Any Other Dispute.* In the event of any other dispute relating to the Research Plan, including any dispute relating to prioritization, direction, or other strategic issues regarding services provided by Protiva pursuant to the PadCo-Protiva License and Services Agreement or services provided by Monsanto pursuant to the Protiva-Monsanto Services Agreement, or any other dispute to be resolved pursuant to the provisions of this Section 12(k)(v), the Chief Executive Officer of Protiva and the Vice President of Chemistry of Monsanto shall use commercially reasonable efforts for a period of 20 days (or such longer period as they may mutually agree) to resolve any such dispute. If, at the end of such period, they are unable to resolve such dispute, then the matter shall be resolved by the Chief Technology Officer of Monsanto; provided, however, that (a) such resolution shall not contravene existing agreements that Protiva is a party to or its business strategies or require the contribution of additional resources of the Company without Protiva's prior written consent, which consent shall not be unreasonably withheld, delayed or conditioned and (b) any increase in costs to Protiva as a result of decisions by Monsanto Canada under this Section 12(k)(v) shall be borne by Monsanto Canada.

(l) Disclosure of Protiva Project Compounds. In the event Monsanto Canada requests disclosure of the chemical composition of any Compounds or Formulations Discovered by, Developed by, that come under the Control of, or that are otherwise used by or on behalf of, Protiva or any of its Affiliates under the Research Program or in connection with the provision of Services provided prior to Closing that are not Joint Project Intellectual Property and that are the Confidential Information of Protiva (each a "**Protiva Project Compound**") prior to Closing: (i) Protiva shall disclose the chemical composition of such Protiva Project Compound to the persons then serving as the Monsanto Canada members of the JRC (the "**Permitted Recipients**"); (ii) the Permitted Recipients shall use such chemical composition information solely to evaluate the merits of filing a Patent application that would require disclosure of such chemical composition information and, for such purpose only, may disclose such chemical composition to such representatives of Monsanto or Monsanto Canada who (A) are bound by non-disclosure obligations with respect to such information at least as restrictive as those contained in Section 7(m) and this Section 12(l) and (B) whose input the Permitted Recipients deem useful for purposes of such evaluation (i.e., disclosure to representatives on a need to know basis only); and (iii) in the event the Permitted Recipients, in their discretion, elect to recommend filing such a Patent application, such recommendation shall be referred to the JRC, to be considered by the JRC in the performance of its duties, as set forth in Section 12(k) and Schedule 12(k). In the event the then Licensee (as defined in the PadCo-Protiva License and Services Agreement) under the PadCo-Protiva License and Services Agreement requests disclosure of the chemical composition of any Protiva Project Compound after Closing including, without limitation, in connection with the performance of Technical Transfer Completion Criteria: (i) Protiva shall disclose the chemical composition of such Protiva Project Compound to the persons designated by the Licensee; (ii) the Licensee may use and disclose such chemical composition information (which chemical composition information is and shall be Protiva Know-How for purposes of the Transaction Agreements) for the purposes set out in and subject to the terms and conditions of the PadCo-Protiva License and Services Agreement; and (iii) in the event the Licensee, in its discretion, elects to recommend filing a Patent application that would require disclosure of such chemical composition information, such recommendation shall be referred to the JRC, to be considered by the JRC in the performance of its duties, as set forth in Section 12(k) and Schedule 12(k). Nothing in this Section 12(l) shall be deemed to limit Protiva's rights to make decisions and/or recommendations regarding the filing or prosecution of Protiva Background Patents or Protiva Project Patent so long as such activities are conducted in a manner Protiva reasonably determines will prevent the disclosure to Monsanto Canada of chemical composition information not requested by Monsanto Canada.

(m) Specific Enforcement. The parties hereto agree that if any of the provisions of this Agreement, were not performed in accordance with their specific terms or were otherwise breached, irreparable damage would occur, no adequate remedy at law would exist and damages would be difficult to determine, and that, except as otherwise provided herein, the parties shall be entitled to specific performance of the terms hereof, in addition to any other remedy at law or equity, without any requirement to the securing or posting of any bond in connection with such remedy.

(n) No Finder's Fees. Each party represents that it neither is nor will be obligated for any finder's fee or commission in connection with this transaction. Monsanto Canada agrees to indemnify and to hold harmless the Company and Protiva from any liability for any commission or compensation in the nature of a finder's or broker's fee arising out of this transaction (and the costs and expenses of defending against such liability or asserted liability) for which Monsanto Canada or any of its officers, employees, or representatives is responsible. The Company and Protiva agree to indemnify and hold harmless Monsanto Canada from any liability for any commission or compensation in the nature of a finder's or broker's fee arising out of this transaction (and the costs and expenses of defending against such liability or asserted liability) for which the Company or Protiva or any of their respective officers, employees or representatives is responsible.

(o) Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

(p) Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed under seal as of the date first above written.

PROTIVA BIOTHERAPEUTICS INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO
Address:

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY, INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO
Address:

ARBUTUS BIOPHARMA CORPORATION (formerly known as Tekmira Pharmaceuticals Corporation)

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO
Address:

MONSANTO CANADA, INC.

By: /s/Robert M. McCarroll
Name: Robert M. McCarroll, Ph. D.
Title: VP, Chemistry Technology
Address:

Schedule 12(k)

Patent Prosecution and Review Procedures

[***]

[Signature Page to Form of Option Exercise Price Certificate]

6503474.9
6503474.10A
6503474.12

EXHIBIT A

RESEARCH PLAN

[***]

6503474.12

Confidential treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as [***]. A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

EXHIBIT B-2(i)

PLANT PHASE A

COMPLETION CRITERIA

[***]

EXHIBIT B-2(ii)

INSECT PHASE A

COMPLETION CRITERIA

[***]

EXHIBIT B-3(i)

PLANT PHASE B

COMPLETION CRITERIA

[***]

EXHIBIT B-3(ii)

INSECT PHASE B

COMPLETION CRITERIA

[***]

EXHIBIT B-4(i)

PLANT PHASE C

COMPLETION CRITERIA

[***]

EXHIBIT B-4(ii)

INSECT PHASE C

COMPLETION CRITERIA

[***]

EXHIBIT B-5(i)

OPTION SET-UP COMPLETION CRITERIA

[***]

EXHIBIT B-5(ii)

OPTION SHIPMENT COMPLETION CRITERIA

[***]

EXHIBIT B-6

TECHNOLOGY TRANSFER COMPLETION CRITERIA

[***]

EXHIBIT C

PADCO-PROTIVA LICENSE AND SERVICES AGREEMENT

(not attached – this is simply the License and Services Agreement previously entered into by the parties)

EXHIBIT D

PROTIVA-MONSANTO SERVICES AGREEMENT

(not attached – this is simply the Services Agreement previously entered into by the parties)

EXHIBIT E

INTENTIONALLY OMITTED

EXHIBIT F

DISCLOSURE SCHEDULE

TO PROTIVA AGRICULTURAL DEVELOPMENT COMPANY INC.

AMENDED AND RESTATED OPTION AGREEMENT

BY AND AMONG

MONSANTO CANADA, INC.,

ARBUTUS BIOPHARMA CORPORATION (FORMERLY KNOWN AS TEKMIRA PHARMACEUTICALS CORPORATION),

PROTIVA BIOTHERAPEUTICS INC.,

AND

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY INC.

Dated as of March 4, 2016

[***]

.

Section 4(f)(iii)(A)
INTELLECTUAL PROPERTY
[***]

Section 4(f)(iii)(C)
COVENANTS NOT TO SUE
[***]

Section 4(f)(iii)(D)
RESEARCH PROGRAM NON-INFRINGEMENT AS OF THE EFFECTIVE DATE

[***]

Section 4(f)(iii)(E)
RESEARCH PROGRAM IP NON-INFRINGEMENT ON THE CLOSING DATE

[***]

Section 4(f)(iii)(F)
NO ACTIONS PENDING – PROTIVA IP

[***]

Section 4(f)(x)
CONFIDENTIAL INFORMATION - EMPLOYEES

[***]

Section 4(f)(x)-2
CONFIDENTIAL INFORMATION

[***]

Section 4(f)(xi)
OPTIONS, LICENSES, COVENANTS, SECURITY INTERESTS, LIENS

[***]

Section 4(f)(xii)
USE OF GOVERNMENTAL AUTHORITIES

[***]

Section 4(h)(ii)
PERMITS

[***]

Section 4(k)(i)
FINANCIAL STATEMENTS

[***]

EXHIBIT G

INTENTIONALLY OMITTED

EXHIBIT H

INTENTIONALLY OMITTED

EXHIBIT I

INTENTIONALLY OMITTED

EXHIBIT J

CERTAIN KNOWLEDGE PERSONS

[***]

EXHIBIT K

CERTAIN PRINCIPAL COMPETITORS

[***]

EXHIBIT L

Confidential treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as [***]. A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

AMENDED AND RESTATED

LICENSE AND SERVICES AGREEMENT

Between

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY INC.

on the one hand,

and

PROTIVA BIOTHERAPEUTICS INC.

and

ARBUTUS BIOPHARMA CORPORATION,

on the other hand

Dated: March 4, 2016

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AMENDED AND RESTATED

LICENSE AND SERVICES AGREEMENT

This Amended and Restated License and Services Agreement (this "Agreement") is entered into as of March 4, 2016 (the "Effective Date"), between Protiva Agricultural Development Company Inc., a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("PadCo"), on the one hand, and Protiva Biotherapeutics, Inc., a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("Protiva"), and Arbutus Biopharma Corporation (formerly, Tekmira Pharmaceuticals Corporation), a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("Arbutus"), on the other hand.

RECITALS

WHEREAS, Protiva and Arbutus own or Control Protiva Intellectual Property (as defined below) that is useful for the delivery of a variety of oligonucleotide products, including those that function through RNA interference or the modulation of microRNAs;

WHEREAS, PadCo, Protiva and Tekmira entered into that certain License and Services Agreement on January 12, 2014 (the "Original License"), and, contemporaneously with the execution of the Original License: (a) as consideration for the Transferred Protiva Rights and in full satisfaction of the Protiva Purchase Price, the Licensee issued the Protiva Note and one Class B Common share in the capital stock of Licensee to Protiva and granted to Protiva the rights set out in Section 3.3 of the Original License; (b) as consideration for the Transferred Tekmira Rights and in full satisfaction of the Protiva Purchase Price, the Licensee issued one Class A Common share in the capital stock of Licensee to Tekmira that was later transferred to Protiva; (c) Protiva, Tekmira, PadCo and Monsanto Canada entered into the Option Agreement and (d) Protiva and Monsanto entered into the Protiva-Monsanto Services Agreement;

WHEREAS, contemporaneously with the execution of this Agreement and as of the Effective Date: (a) the parties to the Protiva-Monsanto Services Agreement are amending the Protiva-Monsanto Services Agreement, (b) the parties to the Option Agreement are amending and restating the Option Agreement, (c) Monsanto Canada is exercising the Call Option to acquire all of the outstanding capital stock of PadCo, and (d) Closing is occurring;

WHEREAS, Protiva, Arbutus and PadCo desire to amend and restate the Original License, effective as of the Effective Date, upon the terms and subject to the conditions set forth in this Agreement; and

WHEREAS, as required by the terms of the Original License, Monsanto Canada has consented to the amendment and restatement of the Original License upon the terms and conditions of this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt of which is hereby acknowledged, PadCo, Arbutus and Protiva enter into this Agreement to amend and restate the Original License effective as of the Effective Date:

ARTICLE I – DEFINITIONS

1.1 General. When used in this Agreement, each of the following terms, whether used in the singular or plural, shall have the meanings set forth in this Article I.

"Affiliate" means, with respect to a Person, any corporation, company, partnership, joint venture and/or firm which controls, is controlled by, or is under common control with such Person. For purposes of the foregoing sentence, "control" means (a) in the case of corporate entities, direct or indirect ownership of at least fifty percent (50%) of the stock or shares having the right to vote for the election of directors, or (b) in the case of non-corporate entities, direct or indirect ownership of at least fifty percent (50%) of the equity interest with the power to direct the management and policies of such non-corporate entities.

"Agreement" has the meaning set forth in the introductory paragraph.

"Agricultural Field" means any and all applications in agriculture, horticulture, forestry, aquaculture, and/or residential (e.g., lawn and garden) markets relating to, for example, plants, fish, arthropods and/or pests and pathogens thereof. For the avoidance of doubt, Agricultural Field excludes, for example: (a) all human and animal (other than fish and arthropods) therapeutic, prophylactic, and diagnostic applications; and (b) modification of any cells, tissues, or organisms for the purpose of manufacturing heterologous proteins, peptides, or viruses for any purpose, including producing therapeutic products, other than the modification of plants, plant cells, or plant tissues for the purpose of manufacturing heterologous proteins, peptides, or viruses for application to plants, fish, arthropods, and/or pests or pathogens thereof.

"Applicable Laws" means all applicable laws, statutes, rules, regulations, guidelines, guidances, ordinances, orders, decrees, writs, judicial or administrative decisions and the like of any nation or government, any state or other political subdivision thereof, any entity exercising executive, judicial, regulatory or administrative functions of or pertaining to government (including any Governmental Authority), any tribunal or arbitrator of competent jurisdiction, and any trade organization whose regulations have the force of law.

"Arbutus" has the meaning set forth in the introductory paragraph.

"Background Patent Infringement Action" has the meaning set forth in Section 5.3(b).

"BIA" has the meaning set forth in Section 2.5.

"Call Option" has the meaning set forth in the Option Agreement.

"CCAA" has the meaning set forth in Section 2.5.

"Change of Control" has the meaning set forth in the Option Agreement.

"Channel Costs" means those costs incurred by a Party and its Affiliates in preparing and utilizing distribution channels for a Product (including product returns, customer rebates, dealer incentives, volume discounts, seed service fees, cash discounts (pre-pay discounts), local

competitive response, transportation or cargo insurance, and some of which, by way of example, are currently identified as "seed service fees," "crop loss and replant," "volume discount," and "seed action pack"), in all cases allocated to such Products in accordance with GAAP.

"Closing" has the meaning set forth in the Option Agreement.

"Code" has the meaning set forth in Section 2.4.

"Combination Product" means any Product that incorporates other technology and/or materials that embody Patents, Know-How, or other intellectual property rights, benefits, and/or value, including for example, seeds, seed treatments (chemicals or biopesticides), or transgenic or non-transgenic components of a plant genome; provided, however, that a Product will only be a Combination Product if such other technology and/or materials have been packaged and sold separately at any time.

"Commercial Milestone Payment" has the meaning set forth in Section 3.1(a).

"Commercialize" means any and all activities directed to marketing, promoting, distributing, importing, having imported, exporting, having exported, selling and having sold a Product, in each case for commercial purposes.

"Commercial Launch" means the first bona fide commercial sale of the Product in an arm's length transaction.

"Compound" means any molecule (a) that was Controlled by Protiva as of the Original Effective Date, (b) Discovered by Protiva or any of its Affiliates under the Research Program or in the performance of the Technology Transfer, (c) became (or becomes, as the case may be) under the Control of Protiva or any of its Affiliates during the period in which Protiva provided Services pursuant to the Research Program or conducts activities pursuant to the Technology Transfer.

"Confidential Information" means all proprietary or confidential information and materials, patentable or otherwise, of a Party disclosed by or on behalf of such Party to the other Party before, on or after the Original Effective Date, chemical substances, formulations, techniques, processes, methodology, equipment, data, reports, Know-How, sources of supply, patent positioning, business plans, and also each Party's proprietary and confidential information of Third Parties in possession of such Party under an obligation of confidentiality, whether or not related to making, using or selling Products.

"Control," "Controls" or "Controlled by" means, with respect to any Compound, Formulation, or Protiva Intellectual Property, the possession of (whether by ownership or license, other than pursuant to this Agreement), or the ability of Protiva or any of its Affiliates to grant access to, or a license or sublicense of, such Compound, Formulation, or Protiva Intellectual Property as provided for herein without violating the terms of any agreement or other arrangement with any Third Party existing at the time Protiva would be required hereunder to grant (or cause its Affiliates to grant) Licensee such access or license or sublicense.

"Cover," "Covers" or "Covered by" means, with respect to a Product, that, but for ownership of or a license or sublicense granted under a Valid Claim of a Protiva Background Patent or Protiva Project Patent, the Discovery, Development, Manufacture, and/or Commercialization with respect to such Product would infringe such Patent (or, if such Patent is a patent application, would infringe a patent issued from such patent application if such patent application were to issue with the claims pending in the patent application as of the moment the determination of "Cover," "Covers," or "Covered by" is being made).

"Develop," "Developing" or "Development" means any and all activities, testing and studies required to develop one or more Products for Regulatory Approval and/or commercial sale.

"Disclosing Party" has the meaning set forth in the Option Agreement.

"Discover", "Discovering" or "Discovery" means any and all research or discovery activities in respect of a Compound, Formulation, or Product.

"Effective Date" has the meaning set forth in the introductory paragraph.

"Formulation" means any chemical composition, including lipids, conjugates and polymers formulated with a variety of excipients, that (a) was Controlled by Protiva as of the Original Effective Date; (b) was designed, screened or tested under the Research Program or is designed, screened or tested by Protiva in the performance of the Technology Transfer; or (c) became (or becomes, as the case may be) under the Control of Protiva or any of its Affiliates during the period in which Protiva provided Services pursuant to the Research Program or conducts activities pursuant to the Technology Transfer.

"GAAP" means United States generally accepted accounting principles as in effect from time to time, consistently applied.

"Governmental Authority" means any United States or supra-national, foreign, federal, state, local, provincial, or municipal government, governmental, regulatory or administrative authority, agency, body, branch, bureau, instrumentality or commission or any court, tribunal, or judicial or arbitral body having relevant jurisdiction over a subject matter.

"Identified Infringement" has the meaning set forth in Section 5.4(b).

"Indemnified Party" has the meaning set forth in Section 7.3.

"Indemnifying Party" has the meaning set forth in Section 7.3.

"Infringement Action" means a Background Patent Infringement Action or a Project Patent Infringement Action.

"Initiating Party" has the meaning set forth in Section 5.4(d).

"Insolvent Party" has the meaning set forth in Section 8.4.

"Joint Project Intellectual Property" means (a) all inventions that were conceived jointly by: (i) Monsanto, employees of Monsanto, or other Persons owing a duty to assign to Monsanto ("Monsanto Personnel") *and* (ii) Protiva, any of its Affiliates, employees of Protiva or any of its Affiliates, or other Persons owing a duty to assign to Protiva or any of its Affiliates ("Protiva Personnel") in the conduct of activities under the Research Program ("Joint Project Inventions"), (b) all Know-How that was developed, created, made, discovered, or produced jointly by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Research Program, (c) all tangible works of expression that was co-authored by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Research Program, (d) all inventions that are conceived jointly by Monsanto Personnel *and* Protiva Personnel in the conduct of activities under the Technology Transfer ("Joint Technology Transfer Inventions"), (e) all Know-How that is developed, created, made, discovered, or produced jointly by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Technology Transfer, and (f) all tangible works of expression that are co-authored by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Technology Transfer. In the event the same invention is conceived of independently by both Monsanto Personnel and Protiva Personnel in the conduct of activities under the Research Program or the Technology Transfer, such invention shall be Joint Project Intellectual Property.

"Joint Project Patents" means Patents that are directed to Joint Project Inventions or to Joint Technology Transfer Inventions.

"JRC" has the meaning set forth in the Option Agreement.

"JRC Protiva Project Infringement Matter" has the meaning set forth in Section 5.5.

"Knowingly" has the meaning set forth in the Option Agreement.

"Knowledge" has the meaning set forth in the Option Agreement.

"Know-How" means biological materials and other tangible materials, information, data, inventions, practices, methods, protocols, formulas, formulations, knowledge, know-how, trade secrets, processes, assays, skills, experience, techniques and results of experimentation and testing, patentable or otherwise (but excluding any marketing, financial, commercial, personnel and other business information and plans).

"Licensee" means PadCo or, in the event Monsanto Canada exercises the Call Option and receives from PadCo an assignment of all of PadCo's rights and obligations under this Agreement, shall mean Monsanto Canada or any permitted assignee of Monsanto Canada.

"Licensee Indemnitees" has the meaning set forth in Section 7.1.

"Losses" has the meaning set forth in Section 7.1.

"Manufacturing" or "Manufacture" means, with respect to a Product, all activities associated with the production, manufacture, packaging, labeling, releasing or processing of such Product.

"Monsanto" means Monsanto Company, a Delaware corporation.

"Monsanto Canada" means Monsanto Canada, Inc., a Canadian corporation.

"Monsanto Improvements" has the meaning set forth in the Protiva-Monsanto Services Agreement.

"Net Sales" means Value Captured for a Product less Channel Costs. Net Sales shall also be consistent with GAAP. For the avoidance of doubt, for a Combination Product, Net Sales shall be equitably apportioned for the contribution of Protiva Background Patents, Protiva Project Patents and/or Joint Project Patents in the Combination Product in a manner generally consistent with the then-current custom and practice.

"Non-Initiating Party" has the meaning set forth in Section 5.4(d).

"Option Agreement" means that certain option agreement by and between Protiva, Arbutus, PadCo and Monsanto Canada dated as of January 12, 2014, pursuant to which Protiva granted Monsanto Canada an exclusive option, as such agreement is amended and restated by the parties thereto effective as of the Effective Date and as such option agreement may be hereafter amended, restated, or otherwise modified from time to time.

"Original Effective Date" means January 12, 2014.

"Original License" has the meaning set forth in the Recitals.

"PadCo" has the meaning set forth in the introductory paragraph.

"Party" means either Licensee or Protiva; "Parties" means Licensee and Protiva. References to "Party" and "Parties", as applicable, shall also refer to Arbutus with respect to the Tekmira Patents and the rights and obligations related thereto.

"Patent" means any patent (including any reissue, extension, substitution, confirmation, re-registrations, re-examination, revival, supplementary protection certificate, patents of addition, continuation, continuation-in-part, or divisional) or patent application (including any provisional application, non-provisional patent application, continuation, continuation-in-part, divisional, PCT international applications or national phase applications), in each case whether in the U.S. or any foreign country.

"Person" means an individual, corporation, limited liability company, syndicate, association, trust, partnership, joint venture, unincorporated organization, government agency or any agency, instrumentality or political subdivision thereof, or other entity.

"Product" means any product or process in the Agricultural Field Covered by a Valid Claim of one or more of the Protiva Background Patents, Protiva Project Patents, or Joint Project Patents.

"Project Patent Infringement Action" has the meaning set forth in Section 5.4(b).

"Proposed Abandonment" has the meaning set forth in Section 5.6.

"Protiva" has the meaning set forth in the introductory paragraph.

"Protiva Background Patents" means Patents relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field that are (i) Controlled by Protiva and that are (1) independent of the activities under the Research Program and (2) exist (whether as pending applications, issued patents, or otherwise) as of the Original Effective Date and/or (ii) Controlled by Protiva or any of its Affiliates and that are (1) independent of the activities under the Research Program and (2) exist (whether as pending applications, issued patents, or otherwise) at any time during the period beginning immediately following the Original Effective Date and ending on the date that is [***]. For purposes of Sections 5.2(a), 5.3, 5.5, and 5.6 references to "Protiva Background Patents" shall be deemed to also refer to Tekmira Patents (and, as applicable, references to Protiva shall be deemed to refer to Arbutus).

"Protiva Indemnitees" has the meaning set forth in Section 7.2.

"Protiva Intellectual Property" means Protiva Know-How, Protiva Background Patents, Protiva Project Patents, Protiva Research Data and Tekmira Patents.

"Protiva Know-How" means Know-How relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field which is Controlled by (a) Protiva on the Original Effective Date and/or (b) Protiva or any of its Affiliates at any time during the period beginning immediately following the Original Effective Date and ending on the date the Technology Transfer is complete in accordance with the Technology Transfer Completion Criteria; provided, however, Protiva Know-How shall exclude Protiva Background Patents, Protiva Project Patents, and Joint Project Intellectual Property.

"Protiva License" means all rights and licenses in and to the Protiva Intellectual Property, and all other rights, granted to Licensee, or to which Licensee is otherwise entitled, pursuant to this Agreement, together with the benefit of (and subject to) all representations, warranties, covenants, and terms related to the Protiva Intellectual Property as set forth in this Agreement.

"Protiva-Monsanto Services Agreement" means that certain services agreement by and between Protiva and Monsanto dated as of January 12, 2014, pursuant to which, among other things, Monsanto agreed to conduct services for Protiva to screen Compounds and/or Formulations according to the Research Program, as such services agreement is amended by the amendment thereto effective as of the Effective Date, and as such services agreement may be hereafter amended, restated, or otherwise modified from time to time.

"Protiva Note" means a non-interest-bearing demand promissory note in the principal amount of [***].

"Protiva Project Inventions" means inventions that are not Joint Project Intellectual Property and that were conceived by Protiva Personnel in the conduct of the Services or other activities under the Research Program pursuant to the Original License or that are conceived by Protiva Personnel in the conduct of activities under the Technology Transfer.

"Protiva Project Patents" means Patents that are directed to Protiva Project Inventions.

"Protiva Purchase Price" shall mean [***].

"Protiva Research Data" means (a) all information and data provided to Licensee and the JRC pursuant to Section 4.3 of the Original License and (b) all summary reports, data and other information Protiva provides or is required to provide pursuant to the Technology Transfer.

"Receiving Party" has the meaning set forth in the Option Agreement.

"Record Retention Period" has the meaning set forth in Section 3.1(c).

"Research" or "Researching" means identifying, evaluating, testing, validating and/or optimizing Compounds, Formulations or Products.

"Research Plan" has the meaning set forth in the Option Agreement.

"Research Program" means the program to design and synthesize Compounds and/or Formulations and to conduct research and development activities for such Compounds and/or Formulations as described in the Research Plan.

"Response Deadline" has the meaning set forth in Section 5.6.

"Services" means the research services described in the Research Plan, activities conducted by or on behalf of Protiva or its Affiliates pursuant to the Research Plan or otherwise pursuant to the Original License, and activities conducted by or on behalf of Protiva or its Affiliates in the performance of the Technology Transfer.

"Solvent Party" has the meaning set forth in Section 8.4.

"Sublicensee" means a Third Party to whom Licensee has granted a sublicense pursuant to the terms hereof.

"Tax Act" means the Income Tax Act (Canada).

"Tax Value" means, in respect of the rights transferred to the Licensee hereunder, where the respective transferred right is eligible capital property under the Tax Act, the least of the amounts referred to in subparagraphs 85(1)(d)(i), (ii) and (iii) of the Tax Act; where the respective transferred right is capital property under the Tax Act, the least of the amounts referred to in subparagraphs 85(1)(c.1)(i) and (ii) of the Tax Act; and where the respective transferred right is depreciable property under the Tax Act, the least of the amounts referred to in subparagraphs 85(1)(e)(i), (ii) and (iii) of the Tax Act.

"Technology Transfer" has the meaning set forth in the Option Agreement.

"Technology Transfer Completion Criteria" shall mean the criteria outlined in Exhibit B-6.

"Technology Transfer Compound List" means a complete list of the components (including Compounds, Formulations, and Compound structures) and ratios of each LNP Composition (as such term is defined in the Technology Transfer Compound Criteria) tested during Phase A (as such term is defined in the Research Program) of the Research Plan as to which the representation and warranty in Section 9.1(b)(vi) is true and correct as of the Effective Date.

"Tekmira" means Tekmira Pharmaceuticals Corporation, predecessor to Arbutus.

"Tekmira Patents" means Patents relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field that were Controlled by Tekmira as of the Original Effective Date, other than the Patents listed on Exhibit A.

"Tekmira Purchase Price" has the meaning set forth in Section 3.2(b).

"Term" means the term described in Section 8.1.

"Territory" means worldwide.

"Third Party" means any Person other than Protiva, Licensee or any of their respective Affiliates.

"Third Party Claim" has the meaning set forth in Section 7.3.

"Transaction Agreements" shall mean this Agreement, the Protiva-Monsanto Services Agreement, the Option Agreement, and such other documents entered into in connection therewith.

"Transferred Protiva Rights" means the licenses granted by Protiva to Licensee set forth in Section 2.1.

"Transferred Tekmira Rights" means the licenses granted by Arbutus to Licensee set forth in Section 2.1.

"UBC" means the University of British Columbia.

"UBC IP" means the patent families set forth in Exhibit A.

"Valid Claim" means a claim of: (a) an issued and unexpired Protiva Project Patent, Protiva Background Patent, or Joint Project Patent, as applicable, which claim has not been revoked or held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, which is not appealable or has not been appealed within the time allowed for appeal, and which has not been abandoned, disclaimed, denied, or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise, or (b) a patent application that is a Protiva Project Patent, a Protiva Background Patent, or a Joint Project Patent, as applicable, that has not been pending for more than eight years after the original priority date for said application and that has not been cancelled, withdrawn or abandoned, or finally rejected by an administrative agency action, which is not appealable or has not been appealed within the time allowed for appeal; provided, however, that for purposes of defining Products for purposes of Section 3.1(a), a claim

of a pending application shall be a Valid Claim only if such claim has been identified in an office action (or other office communication) issued by the U.S. Patent and Trademark Office in connection with the prosecution of such application (x) as allowable, or (y) allowable but for its dependency on a rejected independent claim (the conditions of (x) and (y) collectively referred to as "Allowable") during the 10-year period following the Commercial Launch of the first Product, such claim as Allowable Covers the Product, and, during such period, the designation of such claim as Allowable has not been reversed or otherwise rejected in subsequent prosecution of such application and no substantive amendments have been made to such claim (or any claims from which it depends) during prosecution of such application since its designation as Allowable, wherein the substantive amendment(s) results in the claim no longer Covers the Product.

"Value Captured" means the gross amount invoiced on sales of the Products by a Party and its Affiliates and Sublicensees in the Agricultural Field in the Territory. For a Combination Product, the Value Captured shall be determined in accordance with the foregoing sentence, except that the gross amount invoiced on sales of the Combination Product will be reduced on a per unit basis by the invoice amount of the other technology and/or materials in the Combination Product when sold separately.

1.2 Interpretation. Words such as "herein", "hereinafter", "hereof" and "hereunder" refer to this Agreement as a whole and not merely to a section, paragraph or clause in which such words appear, unless the context otherwise requires. Enumerative references to sections, paragraphs or clauses, or exhibits, without reference to an explicit agreement, document or exhibit, refer to this Agreement or exhibits attached to this Agreement, as applicable. The singular shall include the plural, and each masculine, feminine and neuter reference shall include and refer also to the others, unless the context otherwise requires. The words "include", "includes" and "including" are deemed to be followed by "without limitation" or words of similar import. Except where the context otherwise requires, the word "or" is used in the inclusive sense (and/or). All dollar amounts are expressed in U.S. dollars.

ARTICLE II – LICENSE GRANTS AND RELATED RIGHTS

2.1 License Grants to Licensee . Subject to the terms and conditions of this Agreement, effective as of the Original Effective Date, Protiva (and with respect to the Tekmira Patents only, Arbutus) hereby grants to Licensee an irrevocable, worldwide, perpetual (subject to Article VIII), fully paid-up, transferrable (subject to Section 9.4), sublicensable (subject to Section 2.2), exclusive (even as to Protiva, except as provided in Section 2.3, and even as to Arbutus with respect to the Tekmira Patents) right and license under the Protiva Intellectual Property for all purposes in the Agricultural Field, including to Discover, Develop, Commercialize and Manufacture Products, and to discover, develop, commercialize, and manufacture other products and processes that use or employ Protiva Intellectual Property, in the Agricultural Field. In the event Licensee reasonably determines that any Patent or Know-How owned or Controlled by Arbutus or its Affiliate (other than Protiva) to which Licensee does not have a license under this Agreement is relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field, then upon Licensee's request, Protiva shall cause Arbutus or such Affiliate to promptly grant a license in and to such Patent or Know-How to Licensee under

this Agreement, and such Patent or Know-How shall thereafter be included in Protiva Intellectual Property for all purposes of this Agreement. For the avoidance of doubt, (a) Protiva has not granted to Licensee any right or license to the Protiva Intellectual Property outside of the Agricultural Field, (b) Licensee shall have the right to develop and manufacture Compounds and Formulations in connection with the exercise of its rights to Discover, Develop, Commercialize and Manufacture Products, and to discover, develop, commercialize, and manufacture other products and processes that use or employ Protiva Intellectual Property, in the Agricultural Field, and (c) all UBC IP is expressly excluded from this Agreement, and Licensee is not granted any rights in or to any UBC IP, other than as may be granted pursuant to the second sentence of this Section 2.1.

2.2 Sublicensing .

(a) Licensee may grant sublicenses of any or all of its licensed rights under the Protiva Intellectual Property for any purposes within the Agricultural Field, but solely within the Agricultural Field; provided, however, that any sublicense granted by Licensee shall be subject and subordinate to the terms and conditions of this Agreement and shall contain terms and conditions consistent with those in this Agreement. Licensee shall assume full responsibility for the performance of all obligations and observance of all terms herein under the licenses granted to it. If Licensee becomes aware of a material breach of any sublicense by a Sublicensee, Licensee shall promptly notify Protiva of the particulars of same and take all reasonable efforts to enforce the terms of such sublicense. Any agreement between Licensee and the Sublicensee shall provide that such Sublicensee may only use the Confidential Information of Protiva in accordance with terms of this Agreement applicable to Licensee's use of such Confidential Information and subject to provisions at least as stringent as those set forth in Article VI, and Protiva shall be an express third party beneficiary of such agreement, including provisions related to use and disclosure of Confidential Information. Subject to the foregoing provisions of this Section 2.2(a), Sublicensees shall have the right to further sublicense Protiva Intellectual Property in the Agricultural Field to Third Parties.

(b) Unless otherwise provided in this Agreement, Licensee shall notify Protiva within thirty (30) days after execution of a sublicense entered into hereunder and provide a copy of the fully executed sublicense agreement to Protiva within the same time, which shall be treated as Confidential Information of Licensee under Article VI.

2.3 Grant Back . Licensee agrees to grant and hereby grants to Protiva a non-exclusive right and license under the Protiva Intellectual Property to Discover and Develop Products in the Agricultural Field for purposes of performing the Technology Transfer. This right and license shall terminate following completion of all activities pursuant to the Technology Transfer.

2.4 Retained Rights . Protiva expressly retains any rights not expressly granted to Licensee under this Article II (or otherwise under this Agreement). Nothing in Section 2.1 limits Protiva's ability to perform its obligations under this Agreement, the Protiva-Monsanto Service Agreement or the Option Agreement. For purposes of clarity and without limitation, Protiva has exclusively retained (even as to Licensee) the right to use and employ Protiva Intellectual Property (alone or with Third Parties) in connection with any and all activities related to the Discovery, Development, Commercialization and manufacture (including Manufacture) of Compounds, Formulations and products outside the Agricultural Field in the Territory.

2.5 Rights in Bankruptcy . All licenses and rights to licenses granted under or pursuant to this Agreement by Protiva to Licensee are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code (the "Code") and Section 65.11(7) of the Bankruptcy and Insolvency Act (Canada) (the "BIA") and Section 32(6) of the Companies' Creditors Arrangment Act (Canada) (the "CCAA"), licenses of rights to "intellectual property" as defined under Section 101(35A) of the Code, and as utilized generally in the BIA and CCAA. Licensee, as a licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Code, and that upon commencement of a bankruptcy proceeding by or against Protiva (or any Affiliate of Protiva that owns or Controls Protiva Intellectual Property) under the Code, Licensee shall be entitled to a complete duplicate of, or complete access to (as Licensee deems appropriate), any such intellectual property and all embodiments of such intellectual property. Such intellectual property and all embodiments thereof shall be promptly delivered to Licensee (a) upon any such commencement of a bankruptcy proceeding upon written request therefore by Licensee, unless Protiva (or its Affiliate) elects to continue to perform all of its obligations under this Agreement or (b) if not delivered under (a) above, upon the rejection of this Agreement by or on behalf of Protiva upon written request therefor by Licensee. The foregoing provisions are without prejudice to any rights Licensee may have arising under the Code or other Applicable Law.

2.6 Compliance With Applicable Laws . Each Party shall conduct its obligations under this Agreement, and conduct the Discovery, Development, Manufacture and Commercialization of the Products, in all material respects in accordance with Applicable Laws.

ARTICLE III – FINANCIAL PROVISIONS

3.1 Payment for License .

(c) Licensee shall pay promptly to Protiva: (i) a one-time, non-refundable, non-creditable payment in the amount of [***] upon the first to occur, if either, of (x) the Net Sales in the Territory of Products by Monsanto or its Affiliates equals or exceeds [***] in any single year during the 10-year period following Commercial Launch of the first Product, or (y) the aggregate Net Sales in the Territory of Products by Monsanto or its Affiliates equals or exceeds [***] cumulatively over the 10-year period following the Commercial Launch of the first such Product and (ii) a one-time, non-refundable, non-creditable payment in the amount of [***] if in any single year during the 10-year period following Commercial Launch of the first Product, the Net Sales in the Territory of Products by Monsanto or its Affiliates equals or exceeds [***] (each a "Commercial Milestone Payment"). The amount of any Commercial Milestone Payment shall be reduced, if applicable, in accordance with Monsanto's right of set off and/or any reduction in the amount of the Commercial Milestone Payment as a result of a Change of Control of Protiva or Arbutus, in each case under Section 3(f) or 3(g) of the Option Agreement.

(d) Any payments due from Licensee to Protiva under Section 3.1 of this Agreement that are not paid by the date such payments are due shall bear interest at LIBOR plus two percent (2%) per month from the date such unpaid payments are due until paid in full. The foregoing interest shall be in addition to any other remedies that the Protiva may have pursuant to this Agreement.

(e) During the period of time beginning upon termination of Protiva's obligation to provide the Services, as set forth in the Original License, and ending on expiration of the 10-year period following Commercial Launch of the first Product (the "Record Retention Period"), Licensee shall maintain and retain (and shall cause Monsanto and its Affiliates to maintain and retain) complete and accurate books of account and records covering all transactions relating to payment of amounts that may be due under Section 3.1(a) of this Agreement, then until expiration of the two (2) year period following expiration of the Record Retention Period, shall make such books and records available for inspection and audit by Protiva's authorized representative (which shall be a national certified public accounting firm), subject to reasonable precautions to protection of confidential information of Licensee, Monsanto, or its Affiliates (including Confidential Information), for the purpose of verifying the accuracy of all payments that may be due under Section 3.1(a) of this Agreement. Protiva shall pay the cost of such audit unless it discovers that Licensee has underreported aggregate Gross Profits during any year in the Record Retention Period to Protiva by an amount of at least [***], in which case the costs of such audit shall be borne by Licensee.

3.2 Payment for License .

(a) As consideration for the Transferred Protiva Rights, and in full satisfaction of the Protiva Purchase Price, the Licensee (i) issued to Protiva the Protiva Note, (ii) issued to Protiva one Class B Common share without par value in the capital stock of the Licensee as a fully paid and non-assessable share, and (iii) granted to Protiva the rights set out in Section 3.3.

(b) As consideration for the Transferred Tekmira Rights, and in full satisfaction of the Tekmira Purchase Price, the Licensee issued to Tekmira one Class A Common share without par value in the capital stock of the Licensee as a fully paid and non-assessable share. [***].

3.1 Protiva Subsection 85(1) Election

(a) Protiva and Licensee have jointly made and filed an election under subsection 85(1) of the Tax Act (the "Protiva Election") in the prescribed form and within the time required by subsection 85(6) of the Tax Act in respect of the transfer of the Transferred Protiva Rights and have elected therein that the elected amount will be deemed to be Protiva's proceeds of disposition and the Licensee's cost of the Transferred Protiva Rights (the "Protiva Elected Amount").

(b) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments on the basis that the fair market value of the Transferred Protiva Rights at the time of transfer is greater or less than the Protiva Purchase Price, then:

(i) upon the fair market value of the Transferred Protiva Rights being finally determined by the agreement of Protiva and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Protiva Purchase Price will be deemed conclusively to have always been the amount so determined, and this Agreement will be deemed to be amended as of the Effective Date to reflect such Protiva Purchase Price as determined under this Section 3.4(b)(i); and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Protiva at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment reporting a new fair market value of the Transferred Protiva Rights based on the amounts determined pursuant to section 3.4(b)(i) of this Agreement.

(c) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments, on the basis that the Protiva Elected Amount set out in the Protiva Election is greater or less than the applicable Tax Values of the Transferred Protiva Rights, then:

(i) upon the applicable Tax Values being finally determined, by the Agreement of Protiva and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Protiva Elected Amount will be deemed conclusively to have always been such finally determined Tax Value; and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Protiva at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment electing such amount as is deemed to be the Protiva Elected Amount under Section 3.4(c)(i).

3.2 Tekmira Subsection 85(1) Election

(c) Tekmira and Licensee have jointly made and filed an election under subsection 85(1) of the Tax Act (the "Tekmira Election") in the prescribed form and within the time required by subsection 85(6) of the Tax Act in respect of the transfer of the Transferred Tekmira Rights and have elected therein that the elected amount will be deemed to be Arbutus' proceeds of disposition and the Licensee's cost of the Transferred Tekmira Rights (the "Tekmira Elected Amount").

(d) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments on the basis that the fair market value of the Transferred Tekmira Rights at the time of transfer is greater or less than the Tekmira Purchase Price, then:

(i) upon the fair market value of the Transferred Tekmira Rights being finally determined by the agreement of Arbutus and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Tekmira Purchase Price will be deemed conclusively to have always been the amount so determined, and this Agreement will be deemed to be amended as of the Effective Date to reflect such Tekmira Purchase Price as determined under this Section 3.5(b)(i); and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Arbutus at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment reporting a new fair market value of the Transferred Tekmira Rights based on the amounts determined pursuant to section 3.5(b)(i) of this Agreement.

(e) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments, on the basis that the Tekmira Elected Amount set out in the Tekmira Election is greater or less than the applicable Tax Values of the Transferred Tekmira Rights, then:

(i) upon the applicable Tax Values being finally determined, by the agreement of Arbutus and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Tekmira Elected Amount will be deemed conclusively to have always been such finally determined Tax Value; and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Arbutus at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment electing such amount as is deemed to be the Tekmira Elected Amount under Section 3.5(c)(i).

ARTICLE IV – SERVICES

4.1 Termination of Services Obligations. The Parties acknowledge and agree that, as of the Effective Date, Monsanto Canada is exercising the Call Option prior to completion of Phase C (as such term is defined in the Research Program). Monsanto Canada hereby elects to terminate research under the Research Plan as of the Effective Date and, therefore, the Parties acknowledge and agree that, on and as of the Effective Date, Protiva's obligation to provide Services under this Agreement terminates; provided, however, that, for the avoidance of doubt, from and after the Effective Date, Protiva remains obligated to provide the Technology Transfer in accordance with the Option Agreement through completion of the Technology Transfer in accordance with the Technology Transfer Completion Criteria.

ARTICLE V – INTELLECTUAL PROPERTY

5.1 Ownership. Subject to the licenses granted by Protiva herein, Protiva is and shall at all times remain the owner of the Protiva Intellectual Property, including, for the avoidance of doubt, Protiva Project Patents. As more particularly set forth in the Protiva-Monsanto Services Agreement, and subject to the license granted by Monsanto in the Protiva-Monsanto Services Agreement, Monsanto is and shall at all times remain owner of any Joint Project Intellectual Property.

5.2 Prosecution and Maintenance of Patents.

(a) Subject to Section 5.6, Protiva shall have the sole right and responsibility, in its sole discretion and at its sole cost and expense, to file, prosecute, maintain and/or abandon patent protection in the Territory for Protiva Background Patents.

(b) During the Term, decisions regarding the filing of Patent protection in the Territory for Protiva Project Inventions and decisions regarding the prosecution, maintenance and/or abandonment of Protiva Project Patents in the Territory shall be made by Protiva and/or the JRC in accordance with the applicable provisions of the Option Agreement and, subject to and in accordance with such provisions, Protiva shall be responsible for implementing Protiva's and/or the JRC's

decisions regarding the filing, prosecution, maintenance, and/or abandonment of Protiva Project Patents in the Territory. Except as otherwise set out in the Option Agreement, all costs and fees incurred in connection with the filing, prosecution, maintenance and/or abandonment of all Protiva Project Patents through the Effective Date shall be the sole responsibility of Protiva; all costs and fees incurred in connection with the filing, prosecution, maintenance and/or abandonment of all Protiva Project Patents after the Effective Date shall be the sole responsibility of Licensee.

5.3 Third-Party Infringement of Protiva Background Patents.

(a) Each Party shall promptly report in writing to the other Party during the Term known or suspected commercially relevant infringement by a Third Party of any of the Protiva Background Patents in any field and any known or suspected infringement by a Third Party of any of the Protiva Background Patents in the Agricultural Field of which such Party becomes aware and shall provide the other Party with all evidence supporting or relating to such infringement in its possession.

(b) Protiva shall have the sole and exclusive right to initiate an infringement or other appropriate suit with respect to infringements or suspected infringements of any of the Protiva Background Patents, or to take such other actions as Protiva, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements ("Background Patent Infringement Action"). Protiva shall notify Licensee promptly after initiating any Background Patent Infringement Action.

(c) With respect to any Background Patent Infringement Action initiated on or after the Effective Date directed to infringement occurring at least in part in the Agricultural Field: (i) Licensee may join such Infringement Action as a party if it has standing to do so (at its own cost and expense), may retain counsel at its own cost and expense to provide advice to Licensee regarding such Infringement Action, and may share all information regarding the Infringement Action provided by Protiva with such counsel, and, if Licensee has joined such Infringement Action, such counsel shall be permitted to attend meetings, discussions, or other activities relating to the Infringement Action on behalf of Licensee; and (ii) Provita agrees to give due consideration to any recommendations or suggestions of Licensee in connection with the Infringement Action, but shall not be obligated to implement or follow any such recommendations or suggestions. After the Effective Date, Protiva shall not enter into any settlement or compromise in connection with any Background Patent Infringement Action that would eliminate, diminish, or otherwise modify any right, title, or interest of the Licensee in any Protiva Intellectual Property or that would require any payments, concessions, or otherwise bind the Licensee, without the Licensee's prior written consent, which consent shall not be unreasonably withheld; for the avoidance of doubt, any settlement or compromise that permits continuation of Licensee's rights in and to Protiva Intellectual Property in the same manner and subject to the same terms and conditions as set forth in this Agreement shall not require Licensee's prior consent. Licensee shall provide reasonable cooperation and assistance in connection with a Background Patent Infringement Action initiated by Protiva (including being joined as a party in such Background Patent Infringement Action) at Protiva's reasonable request and sole cost.

5.4 Third-Party Infringement of Protiva Project Patents.

(a) Each Party shall promptly report in writing to the other Party during the Term known or suspected commercially relevant infringement by a Third Party of any of the Protiva Project Patents in any field and any known or suspected infringement by a Third Party of any of the Protiva Project Patents in the Agricultural Field of which such Party becomes aware and shall provide the other Party with all evidence supporting or relating to such infringement in its possession.

(b) Protiva shall have the right, but not the obligation, to initiate an infringement or other appropriate suit with respect to infringements or suspected infringements of any of the Protiva Project Patents, or to take such other actions as Protiva, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements ("Project Patent Infringement Action"). If Protiva declines to commence a Project Patent Infringement Action with respect to a particular actual or threatened infringement of any issued patent within the Protiva Project Patents (an "Identified Infringement") within sixty (60) days following its receipt of a written request from Licensee that it initiate a Project Patent Infringement Action with respect to such Identified Infringement, or if Protiva otherwise fails to confirm that it will commence a Project Patent Infringement Action with respect to such Identified Infringement within such sixty (60) day period, then Licensee may thereafter commence a Project Patent Infringement Action with respect to such Identified Infringement. Licensee shall use reasonable best efforts to notify Protiva prior to initiating any Project Patent Infringement Action and shall continue to inform Protiva of the status of any Project Patent Infringement Action initiated by Licensee, including by responding to Protiva's reasonable requests for status reports, providing drafts of substantive filings of Licensee prior to the due date for such filings, and providing copies of substantive filings of any other party to any such Project Patent Infringement Action promptly after receiving such filings. If any monetary judgment or settlement is recovered in connection with any Project Patent Infringement Action initiated by Licensee or Protiva in accordance with this Section 5.4(b), then, after Licensee or Protiva, as applicable, recoups actual costs and reasonable expenses associated with such Project Patent Infringement Action, (i) then if the monetary judgment or settlement is primarily attributable to infringement in the Agricultural Field, Licensee shall be entitled to receive from the remainder an amount equal to all direct damages attributable to infringement in the Agricultural Field awarded in such judgment or payable under such settlement; Protiva shall then be entitled to receive from the remainder after such payment to Licensee, if any, an amount equal to all direct damages attributable to infringement outside of the Agricultural Field awarded in such judgment or payable under such settlement; and the balance, if any, remaining after such payments to Licensee and Protiva shall be allocated and payable [***] to Licensee and [***] to Protiva; or (ii) if the monetary judgment or settlement is primarily attributable to infringement outside of the Agricultural Field, Protiva shall be entitled to receive from the remainder an amount equal to all direct damages attributable to infringement outside of the Agricultural Field awarded in such judgment or payable under such settlement, Licensee shall then be entitled to receive from the remainder after such payment to Protiva, if any, an amount equal to all direct damages attributable to infringement in the Agricultural Field awarded in such judgment or payable under such settlement; and the balance, if any, remaining after such payments to Protiva and Licensee shall be allocated and payable [***] to Licensee and [***] to Protiva.

(c) Protiva shall use reasonable best efforts to notify Licensee prior to initiating any Project Patent Infringement Action and shall continue to inform Licensee of the status of any Project Patent Infringement Action initiated by Protiva, including by responding to Licensee's reasonable requests for status reports, providing drafts of substantive filings of Protiva prior to the due date for such filings, and providing copies of substantive filings of any other party to any such Infringement Action promptly after receiving such filings.

(d) Each Party (as a "Non-Initiating Party"), with respect to a Project Patent Infringement Action initiated by the other Party (as an "Initiating Party"), may join such Infringement Action as a party if it has standing to do so (at its own cost and expense), may retain counsel at its own cost and expense to provide advice to the Non-Initiating Party regarding such Infringement Action, and may share all information regarding the Infringement Action provided by the Initiating Party with such counsel, and, if the Non-Initiating Party has joined such Infringement Action, such counsel shall be permitted to attend meetings, discussions, or other activities relating to the Infringement Action on behalf of the Non-Initiating Party. The Initiating Party agrees to give due consideration to any recommendations or suggestions of the Non-Initiating Party in connection with a Project Patent Infringement Action, but shall not be obligated to implement or follow any such recommendations or suggestions; provided however, that the Initiating Party shall not enter into any settlement or compromise in connection with a Project Patent Infringement Action that would eliminate, diminish, or otherwise modify any right, title, or interest of the Non-Initiating Party in any Protiva Intellectual Property or that would require any payments, concessions, or otherwise bind the Non-Initiating Party, without the Non-Initiating Party's prior written consent, which consent shall not be unreasonably withheld; for the avoidance of doubt, any settlement or compromise that permits continuation of the Non-Initiating Party's rights in and to Protiva Intellectual Property in the same manner and subject to the same terms and conditions as set forth in this Agreement shall not require the Non-Initiating Party's prior consent. The Non-Initiating Party shall provide reasonable cooperation and assistance in connection with a Project Patent Infringement Action initiated by the Initiating Party (including being joined as a party in such Project Patent Infringement Action) at the Initiating Party's reasonable request and sole cost.

5.5 Defense of Claims Brought by Third Parties. Each Party shall promptly notify the other Party if it becomes aware of any claim that Licensee's actual use or practice of Compounds or Formulations within the Protiva Intellectual Property, or Licensee's methods of creating or using such Formulations or Compounds, in connection with its exercise of its license under Section 2.1 infringes, misappropriates, or otherwise violates the intellectual property rights of any Third Party in the Agricultural Field. In any such instance, the Parties shall cooperate and shall mutually agree upon an appropriate course of action; provided, however, that in the absence of any such agreement, (i) any such matter relating to Protiva Project Patents (such matter a "JRC Protiva Project Infringement Matter") shall be referred to the JRC to be addressed in the manner set forth in the Option Agreement, and (ii) Protiva shall have sole right to determine what action, if any, should be taken in respect of Protiva Background Patents. Each Party shall provide to the other Party copies of any notices it receives from Third Parties regarding any patent nullity actions regarding the Protiva Background Patents or the Protiva Project Patents, any declaratory judgment actions and any alleged infringement or misappropriation of Third Party intellectual property rights arising out of Licensee's use or practice of the Protiva Intellectual Property in connection with its exercise of

its license under Section 2.1. Each Party shall be responsible for its own costs incurred pursuant to this Section 5.5; provided, however, that nothing in this Section 5.5 or elsewhere in this Agreement shall be deemed to eliminate, reduce, or otherwise modify any liability or obligation of Protiva in respect of the Protiva Intellectual Property or Licensee's (or its Sublicensees') use or practice of the Protiva Intellectual Property in connection with its exercise of its license under Section 2.1, including but not limited to any such liability or obligation that may arise out of any representation, warranty, or covenant made by Protiva under the Option Agreement or any other Transaction Agreement; and provided further, however, that nothing in this Section 5.5 shall be deemed to limit or eliminate a Party's right to defend actions initiated by a Third Party against such Party, except to the extent such rights may be limited under any indemnification provisions applicable to such actions.

5.6 Disclosures and Opt-In Rights Regarding Protiva Background Patents. If, during the Term, Protiva decides not to pay the maintenance fee, annuity fee, or similar fee due on any Protiva Background Patent or decides to abandon or discontinue prosecution of any Protiva Background Patent (each a "Proposed Abandonment") and if (a) such Proposed Abandonment will not be accompanied by the proper filing of a continuation or continuation-in-part application for a Protiva Background Patent and (b) there will be no remaining Protiva Background Patent in the same country or jurisdiction in which the abandoned or discontinued Protiva Background Patent was filed that will substantially maintain the value of Licensee's exclusive license under the Protiva Background Patents in the Agricultural Field, Protiva shall notify Licensee at least sixty (60) days in advance of any applicable administrative deadline, maintenance fee due date, or response date after or upon which such Protiva Background Patent will be or become abandoned or trigger a similar loss of rights in jurisdictions other than the United States (the "Response Deadline"), such notice to include the Response Deadline. Upon written request of Licensee, Protiva shall promptly assign to Licensee all of its right, title, and interest in and to such Protiva Background Patent unless (x) such Protiva Background Patent is assigned to a Third Party who takes all steps necessary to prevent the Proposed Abandonment and (y) Licensee retains its license to such Protiva Background Patent on the terms and conditions set forth in this Agreement; Protiva shall thereafter have no further right, title, or interest in or to such Protiva Background Patent, except that Protiva shall thereafter have a perpetual, fully paid-up, non-exclusive right and license under such Protiva Background Patent for all uses in the Protiva Field. To the extent necessary or appropriate to prevent the abandonment or similar loss of rights of a Protiva Background Patent assigned or to be assigned to Licensee, Protiva shall take such other steps (including submission of filings or payments on behalf of Licensee or Monsanto) that are reasonably requested by Licensee (or Monsanto), at Licensee's (or Monsanto's) sole cost and expense.

5.7 Joint Research Committee Oversight. From and after termination of the Option Agreement, then until the disbandment of the JRC by unanimous vote of the JRC at any time after expiration of the last to expire Valid Claim of a Protiva Project Patent or a Joint Project Patent, the JRC shall remain in existence and shall perform the functions described in this Agreement and any other Transaction Agreements according to the general processes and procedures set out in the Option Agreement (as such processes and procedures may be modified by the unanimous vote of the JRC). For the avoidance of doubt, the JRC's oversight of Protiva Project Patents shall terminate if this Agreement terminates.

ARTICLE VI – CONFIDENTIAL INFORMATION AND PUBLICITY

6.1 Non-Disclosure of Confidential Information. Each Party agrees that, for itself and its Affiliates, until the first to occur of (i) [***] or (ii) [***], a Receiving Party shall maintain all Confidential Information of the Disclosing Party in strict confidence and shall not (a) disclose Confidential Information to any third party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted below or (b) use Confidential Information for any purpose except those explicitly licensed or otherwise authorized or permitted by this Agreement or any other Transaction Agreement.

6.2 Exceptions. The obligations in Section 6.1 will not apply with respect to any portion of the Confidential Information that the Receiving Party can show by competent proof: (i) was known to the Receiving Party or its Affiliates, without any obligation to keep it confidential or any restriction on its use, prior to disclosure by the Disclosing Party; (ii) is subsequently disclosed to the Receiving Party or its Affiliates by a Third Party lawfully in possession thereof and without any obligation to keep it confidential or any restriction on its use; (iii) is or otherwise becomes generally available to the public or enters the public domain, either before or after it is disclosed to the Receiving Party and such public availability is not the result, directly or indirectly, of any fault of, or improper taking, use or disclosure by, the Receiving Party or its Affiliates or anyone working in concert or participation with the Receiving Party or its Affiliates; or (iv) has been independently developed by employees or contractors of the Receiving Party or its Affiliates without the aid, application or use of Confidential Information of the Disclosing Party. Specific Confidential Information disclosed by a Disclosing Party will not be deemed to be within any exceptions set forth in (i), (ii), or (iii) above merely because it is embraced by more general information to which one or more of those exceptions may apply and provided further that no combination of information shall be deemed to be within any such exceptions unless the combination itself and its principle of operation are within the public domain. Even though Confidential Information may be within one of the exceptions described in the preceding sentence, the Receiving Party shall not disclose to third parties that the excepted Confidential Information was received from the Disclosing Party.

6.3 Permitted Uses. Confidential Information of a Disclosing Party may be used by the Receiving Party in the performance of its obligations under any Transaction Agreement, as otherwise expressly authorized in any Transaction Agreement or as expressly authorized by the Disclosing Party in writing. Confidential Information that is Protiva Intellectual Property may be used by Licensee subject to and in accordance with the provisions of this Agreement applicable to Licensee's license to Protiva Intellectual Property. Licensee shall take steps to maintain the confidentiality of such Confidential Information that are consistent with the steps it takes to maintain the confidentiality of its own most-valuable confidential information, but in no event less than commercially reasonable steps; provided, however, that nothing in this Agreement shall be deemed to eliminate, restrict, or otherwise limit Licensee's license to use such Confidential Information in accordance with the terms and conditions of this Agreement, even if such use may result, directly or indirectly, in the disclosure of such Confidential Information, so long as such disclosures are made in a manner than complies with Section 6.4 below.

6.4 Permitted Disclosures . The Receiving Party may disclose Confidential Information belonging to the Disclosing Party to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances: (i) subject to the proviso below, by any Party hereto, in order to comply with applicable non-patent law (including any securities law or regulation or the rules of a securities exchange in a relevant jurisdiction) and with judicial process, if based on the reasonable advice of the Receiving Party's counsel, such disclosure is necessary for such compliance; (ii) subject to the proviso below, by any Party hereto, in connection with prosecuting or defending litigation; (iii) by any Party hereto, in connection with filing and prosecuting Protiva Project Patents and Joint Project Patents only in a manner that complies with such Party's rights and obligations in connection with such matters as set out in the Transaction Agreements; (iv) subject to the proviso below, by Licensee, its Sublicensees, or their sublicensees in connection with any legal or regulatory requirements related to the development, sale, offer for sale, use or manufacture of commercial products (or potential commercial products) that use or employ Protiva Intellectual Property, such as labeling requirements, disclosures in connection with obtaining regulatory approvals, and the like, so long as the discovery, development, use, manufacture, and commercialization of such products has been and is performed in a manner that complies with the terms and conditions of Licensee's license to such Protiva Intellectual Property and reasonable steps shall be taken to maintain the confidentiality of said Confidential Information even when disclosed for legal or regulatory purposes; (v) subject to the proviso below, by the Licensee, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial information related thereto), and each of the Licensee's and its Affiliates' respective directors, employees, contractors and agents; and (vi) subject to the proviso below, by Protiva, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial information related thereto), and Protiva's and its Affiliates' respective directors, employees, contractors and agents, provided, that (a) with respect to clause (i), (ii) and (iv) where legally permissible, (1) the Receiving Party shall notify the Disclosing Party of the Receiving Party's intent to make any disclosure pursuant thereto sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) consistent with applicable law or regulation, the Disclosing Party shall have the right to suggest reasonable changes to the disclosure to protect its interests and the Receiving Party shall not unreasonably refuse to include such changes in its disclosure, and (b) with respect to clause (v) and (vi), each Person to whom Confidential Information is disclosed must be bound prior to disclosure by confidentiality and non-use restrictions at least as restrictive as those contained in this Agreement (other than investment bankers, investors and lenders, who must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

ARTICLE VII – INDEMNIFICATION AND INSURANCE

7.1 Protiva Indemnification. Protiva agrees to indemnify Licensee and its Affiliates, and their respective agents, directors, officers, employees, representatives, successors and permitted assigns (the "Licensee Indemnitees") against and to hold each of them harmless from any and all

losses, costs, damages, fees or expenses ("Losses") actually incurred or suffered by an Licensee Indemnitee to the extent arising out of or in connection with any claim, suit, demand, investigation or proceeding brought by a Third Party based on any breach of any representation, warranty or covenant by Protiva under this Agreement or Protiva's gross negligence or willful misconduct. The foregoing indemnification shall not apply to the extent that any Losses are due to (a) a breach of any of Licensee's representations, warranties, covenants and/or obligations under this Agreement or (b) Licensee's gross negligence or willful misconduct.

7.2 Licensee Indemnification. Licensee agrees to indemnify Protiva and its Affiliates, and their respective agents, directors, officers, employees, representatives, successors and permitted assigns (the "Protiva Indemnitees") against and to hold each of them harmless from any and all Losses actually incurred or suffered by a Protiva Indemnitee to the extent arising out of or in connection with (a) any claim, suit, demand, investigation or proceeding brought by a Third Party based on (i) any breach of any representation, warranty or covenant by Licensee under this Agreement, or (ii) Licensee's gross negligence or willful misconduct, or (b) a Third Party's direct damages resulting from any development or Commercialization of any Product or products or processes that use or employ Protiva Intellectual Property. In addition to the limitations set forth in the preceding sentence, the foregoing indemnification obligations shall not apply to the extent that any Losses are due to (x) a breach of any of Protiva's representations, warranties, covenants and/or obligations under this Agreement, (y) Protiva's gross negligence or willful misconduct, or (z) any of the following occurring prior to or at Closing: (A) any breach of any representation, warranty or covenant by Licensee under this Agreement; (B) Licensee's gross negligence or willful misconduct; or (C) a breach of any of Protiva's representations, warranties, or covenants directed to Protiva Intellectual Property or the Protiva License under the Option Agreement.

7.3 Tender of Defense; Counsel. Any Person (the "Indemnified Party") seeking indemnification under Article VII agrees to give prompt notice in writing to the other Party (the "Indemnifying Party") of the assertion of any claim or the commencement of any action by any third party (a "Third Party Claim") in respect of which indemnity may be sought under such section. Such notice shall set forth in reasonable detail such Third Party Claim and the basis for indemnification (taking into account the information then available to the Indemnified Party). The failure to so notify the Indemnifying Party shall not relieve the Indemnifying Party of its obligations hereunder, except to the extent such failure shall have materially and adversely prejudiced the Indemnifying Party. The Indemnifying Party shall be entitled to participate in the defense of any Third Party Claim and shall, upon its written confirmation of its obligation to indemnify the Indemnified Party in accordance with this Article VII, be entitled to control and appoint lead counsel reasonably satisfactory to the Indemnified Party for such defense by written notice to the Indemnified Party within twenty (20) calendar days after the Indemnifying Party has received notice of the Third Party Claim, in each case at its own expense; provided, however, that the Indemnifying Party must conduct the defense of the Third Party Claim actively and diligently thereafter in order to preserve its rights in this regard. The Indemnifying Party shall not be entitled to assume or maintain control of the defense of any Third Party Claim and shall pay the fees and expenses of one counsel retained by the Indemnified Party if: (a) the Third Party Claim relates to or arises in connection with any criminal proceeding, action, indictment or allegation, (b) the Third Party Claim seeks an injunction or equitable relief against a Indemnified Party or any of its Affiliates, or (c) the Indemnifying Party

has failed or is failing to prosecute or defend vigorously the Third Party Claim. Each Indemnified Party shall obtain the prior written consent of the Indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned, before entering into any settlement of a Third Party Claim. Notwithstanding the foregoing, the Indemnifying Party shall not be entitled to enter into or approve any settlement of a Third Party Claim without the consent of the Indemnified Party (which may be withheld in its sole discretion), if the settlement (a) does not expressly unconditionally release all applicable Indemnified Parties and their Affiliates from all Liabilities with respect to such Third Party Claim or (b) imposes injunctive or other equitable relief against the Indemnified Party or any of its Affiliates, (c) involves any admission of criminal or similar liability, or (d) involves any monetary damages that may not be fully covered by the Indemnifying Party. In the event that the Indemnifying Party fails to assume the defense of the Third Party Claim in accordance with this Section 7.3, (a) the Indemnified Party may defend against the Third Party Claim in any manner it reasonably may deem appropriate, and (b) the Indemnifying Party will remain responsible for any Losses of the Indemnified Party as a result of such Third Party Claim. In circumstances where the Indemnifying Party is controlling the defense of a Third Party Claim in accordance with this Section 7.3, the Indemnified Party shall be entitled to participate in the defense of any Third Party Claim and to employ separate counsel of its choice for such purpose, in which case the fees and expenses of such separate counsel shall be borne by such Indemnified Party. Notwithstanding anything herein to the contrary, in circumstances where there is a conflict of interest that would reasonably make it inappropriate under applicable standards of professional conduct to have common counsel for the Indemnifying Party and the Indemnified Party, the Indemnified Party shall be entitled to employ separate counsel, that is reasonably acceptable to the Indemnifying Party, and the Indemnifying Party shall pay the reasonable fees and expenses of such separate counsel. Each Party shall cooperate, and cause their respective Affiliates to cooperate in all reasonable respects, in the defense or prosecution of any Third Party Claim and shall furnish or cause to be furnished such records, information and testimony, and attend such conferences, discovery proceedings, hearings, trials or appeals, as may be reasonably requested in connection therewith.

7.4 Insurance. Each Party shall maintain insurance, including product liability insurance, with respect to its activities under this Agreement regarding Products in such amount as such Party customarily maintains with respect to similar activities for its other products. Each Party shall maintain such insurance for so long as it continues its activities under this Agreement, and thereafter for so long as such Party customarily maintains insurance for itself covering similar activities for its other products. Notwithstanding the foregoing, the Parties agree that during such time that Licensee is an Affiliate of Protiva, Licensee shall have satisfied its obligations under this Section 7.4 provided it is covered by Protiva's existing insurance policies.

ARTICLE VIII – TERM AND TERMINATION

8.1 Term. The term of this Agreement (the "Term") shall begin on the Original Effective Date and, unless terminated earlier as provided herein, shall continue in perpetuity.

8.2 Termination for Material Breach. In the event of a material breach of this Agreement by Licensee, Protiva may provide notice to Licensee setting forth the nature of the breach and a description of the facts underlying the breach sufficient to identify the breach. If Licensee has not

cured such breach or proposed a reasonably satisfactory plan to cure or otherwise remedy such breach within ninety (90) days from the date of receipt of such notice of breach, Protiva may provide a notice of termination to Licensee and this Agreement shall terminate ninety (90) days after such notice of termination unless the breach is cured to the reasonable satisfaction of Protiva or unless Licensee has begun to implement a reasonably satisfactory plan to cure or otherwise remedy such breach within ninety (90) days from the receipt of such notice of termination. Notwithstanding the foregoing, or any termination of Licensee's license pursuant to Section 8.4 below, with respect to any sublicense entered into by Licensee for which the Sublicensee is not the cause of the material breach that resulted in the termination of this Agreement, then upon the assignment to Protiva of all rights of Licensee under such sublicense, Protiva shall assume those obligations of Licensee to such Sublicensee under such sublicense that are within the scope of Protiva's obligations to Licensee under this Agreement; all other obligations to the Sublicensee under such sublicense, and all liabilities of Licensee to such Sublicensee, shall remain the sole and exclusive obligations and liabilities of Protiva, and nothing in this Section 8.2 shall be deemed to expand, increase, or otherwise modify Protiva's obligations or liabilities under this Agreement.

8.3 Challenges of Protiva's Patents. If Licensee or any of its Affiliates shall (a) commence or participate in any action or proceeding (including any patent opposition or re-examination proceeding), or otherwise assert in writing any claim, challenging or denying the validity of any of the Protiva Background Patents or Protiva Project Patents or any claim thereof or (b) actively assist any other Person in bringing or prosecuting any action or proceeding (including any patent opposition or re-examination proceeding) challenging or denying the validity of such Patents or any claim thereof, Protiva will have the right to give notice to Licensee (which notice must be given, if at all, within ninety (90) days after Arbutus's CEO first learns of the foregoing) that the licenses granted by Protiva to such Patent will terminate in ninety (90) days following such notice, and, unless Licensee and/or its Affiliate, as applicable, withdraws or causes to be withdrawn all such challenge(s) within such ninety-day period, such licenses will so terminate.

8.4 Rights in Bankruptcy. Each Party (the "Insolvent Party") shall promptly notify the other Party (the "Solvent Party") in writing upon the initiation of any proceeding in bankruptcy, reorganization, dissolution, liquidation or arrangement for the appointment of a receiver or trustee to take possession of the assets of the Insolvent Party or similar proceeding under the law for release of creditors by or against the Insolvent Party or if the Insolvent Party shall make a general assignment for the benefit of its creditors. To the extent permitted by Applicable Law, if the applicable circumstances described above shall have continued for ninety (90) days undismissed, unstayed, unbonded and undischarged, the Solvent Party may terminate this Agreement upon written notice to the Insolvent Party at any time. If Protiva is the Insolvent Party, the rights and remedies granted to Licensee (as the Solvent Party) pursuant to this Section 8.4 shall be in addition to, and not in lieu of, Licensee's rights and remedies under Section 2.4 above.

8.5 Consequences of Termination; Survival.

(a) In the event this Agreement is properly terminated in accordance with its terms, then except as provided in the Protiva-Monsanto Services Agreement, Licensee's rights and licenses under the Protiva Intellectual Property shall terminate upon the effective date of such termination.

Termination of this Agreement shall not relieve the Parties of any obligation accruing prior to or upon such expiration or termination and the provisions of ARTICLE I – (Definitions), ARTICLE VI – (Confidential Information), ARTICLE VII – (Indemnification), and ARTICLE IX – (Miscellaneous) shall survive any expiration or termination of this Agreement.

(b) Notwithstanding anything to the contrary contained in this Agreement, if it is determined that Protiva has breached its representation and warranty in Section 9.1(b)(iii), Licensee's sole and exclusive remedy shall be to require Arbutus or its Affiliate, as applicable, to grant to Licensee a license under its Patents or Know-How for all purposes in the Agricultural Field and such Patents and/or Know-How shall thereafter be included within Protiva Intellectual Property for all purpose of this Agreement; provided, however, that the foregoing shall not be deemed to limit, eliminate or otherwise modify Protiva's obligations under Section 7.1 to indemnify any Licensee Indemnitee against or hold any Licensee Indemnitee harmless in respect of any Losses actually incurred or suffered by a Licensee Indemnitee arising out of or in connection with any claim, suit, demand, investigation or proceeding brought by UBC or any other Third Party based on any breach of any representation, warranty or covenant by Protiva under this Agreement, including Section 9.1(b)(vi), even if or to the extent such Losses may also arise out Protiva's breach of Section 9.1(b)(iii). Furthermore, omission from the Technology Transfer Compound List of any Compound or Formulation that was provided or created by Protiva or its Affiliate in connection with the Research Program shall not be deemed to limit or eliminate Licensee's rights under the second sentence of Section 2.1 with respect to such Compound or Formulation.

8.6 Remedies. The Parties acknowledge and agree that, in the event of a breach or a threatened breach by either Party of this Agreement for which it will have no adequate remedy at law, the other Party may suffer irreparable damage and, accordingly, shall be entitled to injunctive and other equitable remedies to prevent or restrain such breach or threatened breach, in addition to any other remedy they might have at law or at equity. In the event of a breach or threatened breach by a Party of any such provision, the other Party shall be authorized and entitled to obtain from any court of competent jurisdiction injunctive relief, whether preliminary or permanent, arising from such breach, which rights shall be cumulative and in addition to any other rights or remedies to which the other Party may be entitled in law or equity.

ARTICLE IX – MISCELLANEOUS

9.1 Representations and Warranties.

(a) Mutual Representations and Warranties by Protiva and Licensee.

(i) Each Party hereby represents and warrants to the other Party as of the Original Effective Date:

(a) It is duly organized and validly existing under the laws of the jurisdiction of its incorporation or formation, and has all necessary power and authority to conduct its business in the manner in which it is currently being conducted, to own and use its assets in the manner in which its assets are currently owned and used, and to enter into and perform its obligations under this Agreement.

(b) The execution, delivery and performance of this Agreement has been duly authorized by all necessary action on the part of such Party and its Board of Directors and no consent, approval, order or authorization of, or registration, declaration or filing with any Third Party or Governmental Authority is necessary for the execution, delivery or performance of this Agreement.

(c) This Agreement constitutes the legal, valid and binding obligation of such Party, enforceable against it in accordance with its terms, subject to (A) laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (B) rules of law governing specific performance, injunctive relief and other equitable remedies.

(d) It has never approved or commenced any proceeding, or made any election contemplating, the winding up or cessation of its business or affairs or the assignment of material assets for the benefit of creditors. To such Party's knowledge, no such proceeding is pending or threatened.

(ii) Each Party acknowledges and agrees that the other Party has not made any representation or warranty under this Agreement that it has or can provide all the rights that are necessary or useful to Research, Develop or Commercialize a Product; provided, however, that nothing in this Section 9.1(a)(ii) or elsewhere in this Agreement shall be deemed to eliminate, reduce, or otherwise modify any liability or obligation of Protiva or Licensee that may arise out of any representation, warranty, or covenant made by Protiva or Licensee under the Option Agreement or any other Transaction Agreement.

(iii) Each Party represents and warrants to the other Party that as of the Original Effective Date and as of Closing it has the right to grant to such other Party, its Affiliates and Sublicensees the licenses granted hereunder and has not granted any conflicting rights to any other Person.

(b) Protiva Representations, Warranties, and Covenants. Protiva hereby represents, warrants, and covenants to Licensee that:

(i) To Protiva's Knowledge, except as set forth on Schedule 9.1(b), the conception, development and reduction to practice of the Protiva Intellectual Property licensed to Licensee under the Original License did not constitute or involve the infringement, misappropriation, or other violation of trade secrets or other rights (including intellectual property rights) or property related to polynucleotide delivery in biological systems of any Person anywhere in the Territory.

(ii) If a Compound or Formulation was provided or created by Protiva or its Affiliate in connection with the Research Program, the use and employment of which as contemplated by the Research Program or the Original License (including but not limited to in connection with the development, Manufacture, or Commercialization of any Product or the development, manufacture, or commercialization of any other product or process that uses or employs Protiva Intellectual Property) would, to the Knowledge of Protiva, infringe upon or misappropriate or otherwise violate the Intellectual Property of any Third Party, then Protiva promptly (and, in any event, prior to or contemporaneously with providing such Compound or

Formulation to Monsanto under the Protiva-Monsanto Services Agreement) provided written notice thereof to the JRC;

(iii) Except for the Tekmira Patents, as of the Original Effective Date, neither Tekmira nor any of its Affiliates (other than Protiva) owned or Controlled (including by joint ownership) any Patents or Know-How relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and their use in the Agricultural Field;

(iv) Neither Protiva nor any of its Affiliates has assigned, transferred, conveyed or otherwise encumbered its right, title and interest in the Protiva Intellectual Property in a manner that conflicts with any rights granted to Licensee hereunder;

(v) In the provision of Services under the Original License, and except as disclosed in accordance with Section 9.1(b)(ii) above, Protiva did not Knowingly infringe, misappropriate, or otherwise violate any trade secrets or other rights (including intellectual property rights) or property of any Person anywhere in the Territory;

(vi) No Compound or Formulation: (i) that was provided or created by Protiva or its Affiliate in connection with the Research Program and that is identified, or required to be identified, on the Technology Transfer Compound List to be provided to Licensee pursuant to the Technology Transfer or (ii) that was or is delivered, disclosed or otherwise provided to Licensee in the performance of the Technology Transfer, or the use and employment any Compound or Formulation described in item (i) or (ii) above as contemplated by the Original License (including but not limited to in connection with the development, Manufacture, or Commercialization of any Product or the development, manufacture, or commercialization of any other product or process that uses or employs Protiva Intellectual Property), will infringe, misappropriate or otherwise violate any UBC IP; and

(vii) During the Term, neither Arbutus nor any of its Affiliates will grant a license, sublicense or other right, title, or interest in or to any Patents or Know-How it owns or Controls (including by joint ownership) as of the Original Effective Date to any Third Party for use in the Agricultural Field.

(viii) Notwithstanding Sections 9.1(b)(i) and 9.1(b)(v) above, Licensee agrees and acknowledges that Protiva makes no representation, warranty or covenant regarding whether any nucleic acid molecules provided by Monsanto and used by Protiva in the performance of the Research Plan, or used by Licensee in connection with the development, Manufacture, or Commercialization of any Product or the development, manufacture, or commercialization of any other product or process that uses or employs Protiva Intellectual Property infringe, misappropriate, or otherwise violate the trade secrets or other rights (including intellectual property rights) or property of any Person anywhere in the Territory.

(c) Warranty Disclaimer. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT OR THE ORIGINAL LICENSE, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTY OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, TO THE OTHER PARTY WITH RESPECT TO ANY

INTELLECTUAL PROPERTY, PRODUCTS, GOODS, RIGHTS OR OTHER SUBJECT MATTER OF THIS AGREEMENT OR THE ORIGINAL LICENSE AND HEREBY DISCLAIMS ALL IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR VALIDITY OF PATENT RIGHTS WITH RESPECT TO ANY AND ALL OF THE FOREGOING. EACH PARTY HEREBY DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT THE DEVELOPMENT, MANUFACTURE OR COMMERCIALIZATION OF ANY PRODUCT PURSUANT TO THIS AGREEMENT SHALL BE SUCCESSFUL OR THAT ANY PARTICULAR SALES LEVEL WITH RESPECT TO ANY SUCH PRODUCT SHALL BE ACHIEVED. Nothing in this Section 9.1(c) or elsewhere in this Agreement or the Original License shall be deemed to eliminate, reduce, or otherwise modify any liability or obligation of Protiva or Licensee that may arise out of any representation, warranty, or covenant made by Protiva or Licensee under the Option Agreement or any other Transaction Agreement.

9.2 Force Majeure . Except with respect to payment obligations, a Party shall neither be held liable or responsible to any other Party, nor be deemed to have defaulted under or breached this Agreement, for failure or delay in fulfilling or performing any term of this Agreement to the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party, including fire, floods, embargoes, power shortage or failure, acts of war (whether war be declared or not), insurrections, riots, terrorism, civil commotions, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions or delays in acting by any Governmental Authority or any other Party, and such affected Party promptly begins performing under this Agreement once such causes have been removed.

9.3 Consequential Damages. UNDER NO CIRCUMSTANCES WILL ANY PARTY BE LIABLE TO ANY OTHER PARTY WITH RESPECT TO THE PROVISION OF THE SERVICES HEREUNDER OR UNDER THE ORIGINAL LICENSE FOR ANY CONSEQUENTIAL, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL OR SIMILAR DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE AND REGARDLESS OF THE CAUSE OF ACTION FROM WHICH THEY ARISE, INCLUDING, WITHOUT LIMITATION, CLAIMS FOR LOSS OF GOODWILL OR LOST PROFITS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OCCURRING. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 9.3 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OF A PARTY OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF CONFIDENTIALITY OBLIGATIONS IN ARTICLE VI OR ANY DAMAGES THAT MAY BE AVAILABLE TO A PARTY AS A RESULT OF ANOTHER PARTY'S BREACH OF ITS OBLIGATIONS UNDER ANY OTHER TRANSACTION AGREEMENT, SUBJECT TO THE LIMITATIONS SET FORTH THEREIN.

9.4 Assignment. Licensee may freely assign its rights and obligations hereunder to Monsanto or Monsanto Canada upon or at any time after the Closing so long as Monsanto or Monsanto Canada, as the case may be, expressly assumes in writing Licensee's rights and obligations herein. Protiva may not assign or otherwise transfer this Agreement or any of its rights and obligations under this Agreement at any time without the prior written consent of Monsanto. Any

purported transfer or assignment in contravention of this Section 9.4 shall, at the option of the non-assigning Party, be null and void and of no effect. This Agreement shall be binding upon and inure to the benefit of the Parties and their permitted successors and assigns. No assignment by Protiva or any of its Affiliates of any right, title, or interest in or to the Protiva Intellectual Property shall extinguish, limit, or otherwise modify any rights granted to Licensee in or to such Protiva Intellectual Property, or the exclusivity of such rights.

9.5 Notices.

Notices to Licensee shall be addressed to:

Protiva Agricultural Development Company Inc.
c/o Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
Attention: Technology Alliances Lead

With copies to:

Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
Attention: Deputy General Counsel, Intellectual Property

Bryan Cave LLP
One Metropolitan Square
211 North Broadway, Suite 3600
St. Louis, Missouri 63102
Attn: C. Brendan Johnson
Facsimile No.: (314) 552-8438

Notices to Protiva shall be addressed to:

Protiva Pharmaceuticals Corporation
100-8900 Glenlyon Parkway
Burnaby, B.C.
Canada V5J 5J8
Attention: President & CEO
Facsimile No.: (604) 630-5103

Notices to Arbutus shall be addressed to:

Arbutus Biopharma Corporation
100-8900 Glenlyon Parkway
Burnaby, B.C.
Canada V5J 5J8

Attention: President & CEO
Facsimile No.: (604) 630-5103

In each case with copy to:

Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
Attention: R. King Milling
Facsimile No.: (212) 506-5151

Either Party may change its address by giving notice to the other Party in the manner provided in this Section 9.5. Any notice required or provided for by the terms of this Agreement shall be in writing and shall be (a) sent by certified mail, return receipt requested, postage prepaid, (b) sent via a reputable international express courier service, or (c) sent by facsimile transmission, with a copy by regular mail. The effective date of the notice shall be the actual date of receipt by the Receiving Party.

9.6 Independent Contractors. It is understood and agreed that the relationship between the Parties is that of independent contractors and that nothing in this Agreement shall be construed as authorization for either Party to act as the agent for the other Party.

9.7 Governing Law; Jurisdiction. This Agreement shall be governed and interpreted in accordance with the substantive laws of the State of New York, excluding its conflicts of laws principles. In the event any action shall be brought to enforce or interpret the terms of this Agreement, the Parties agree that such action will be brought in the State or Federal courts located in New York, New York. Each of the Parties hereby irrevocably submits with regard to any action or proceeding for itself and in respect to its property, generally and unconditionally, to the nonexclusive jurisdiction of the aforesaid courts. Each of the Parties hereby irrevocably waives, and agrees not to assert, by way of motion, as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement, (a) any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason other than the failure to lawfully serve process, (b) that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise), and (c) to the fullest extent permitted by Applicable Law, that (i) the suit, action or proceeding in any such court is brought in an inconvenient forum, (ii) the venue of such suit, action or proceeding is improper, and (iii) this Agreement, or the subject matter hereof, may not be enforced in or by such courts.

9.8 Severability. In the event that any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable because it is invalid or in conflict with any law of the relevant jurisdiction, the validity of the remaining provisions shall not be affected and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular provisions held to be unenforceable, provided that the Parties shall negotiate in good faith a modification of this Agreement with a view to revising this Agreement in a manner which

reflects, as closely as is reasonably practicable, the commercial terms of this Agreement as originally signed.

9.9 No Implied Waivers. The waiver by either Party of a breach or default of any provision of this Agreement by the other Party shall not be construed as a waiver of any succeeding breach of the same or any other provision, nor shall any delay or omission on the part of either Party to exercise or avail itself of any right, power or privilege that it has or may have hereunder operate as a waiver of any right, power or privilege by such Party.

9.10 Headings. The headings of articles and sections contained this Agreement are intended solely for convenience and ease of reference and do not constitute any part of this Agreement, or have any effect on its interpretation or construction.

9.11 Entire Agreement; Amendment. This Agreement (along with the attachments) and the other Transaction Agreements (as amended as of the Effective Date) contain the entire understanding of the Parties with respect to the subject matter hereof and thereof and, except as provided in Section 9.16 below, supersede and replace any and all previous arrangements and understandings, whether oral or written, between the Parties with respect to the subject matter hereof and thereof. This Agreement (including the attachments hereto) may be amended only by a writing signed by each of the Parties.

9.12 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement shall be construed against the drafting Party shall not apply.

9.13 No Third-Party Beneficiaries. Except as expressly contemplated herein, no Third Party, including any employee of any Party to this Agreement, shall have or acquire any rights by reason of this Agreement.

9.14 Further Assurances. Each Party shall provide such further documents or instruments required by the other Party as may be reasonably necessary or desirable to give effect to the purpose of this Agreement and carry out its provisions.

9.15 Performance by Affiliates. Either Party may use one or more of its Affiliates to perform its obligations and duties hereunder and Affiliates of a Party are expressly granted certain rights herein; provided that each such Affiliate shall be bound by the corresponding obligations of such Party and the relevant Party shall remain liable hereunder for the prompt payment and performance of all their respective obligations hereunder.

9.16 Effect of Amendment. Nothing in this Agreement shall be deemed to eliminate or modify any rights or obligations of the Parties under the Original License that had accrued prior to the Effective Date, including any obligations in respect of any election under subsection 85(1) of the Tax Act made pursuant to the Original License, it being understood and agreed by the Parties that the terms and conditions of this Agreement are effective from and after the Effective Date.

9.17 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument.

[*Signature Page Follows*]

IN WITNESS WHEREOF, Licensee and Protiva have set their hands to this License and Services Agreement as of the date first written above.

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY, INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

ARBUTUS BIOPHARMA CORPORATION

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

PROTIVA BIOTHERAPEUTICS INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

EXHIBIT A to
AMENDED AND RESTATED
LICENSE AND SERVICES AGREEMENT

[***]

EXHIBIT M

FIRST AMENDMENT

TO

PROTIVA-MONSANTO SERVICES AGREEMENT

THIS FIRST AMENDMENT TO THE PROTIVA-MONSANTO SERVICES AGREEMENT (this "Amendment") is made and entered into as of March 4, 2016, (the "Effective Date") by and among Protiva Biotherapeutics, Inc., a British Columbia corporation ("Protiva") and a wholly-owned subsidiary of Arbutus Biopharma Corporation, formerly Tekmira Pharmaceutcals Corporation ("Arbutus"), Protiva Agricultural Development Company Inc. ("PadCo"), a British Columbia corporation and a wholly-owned subsidiary of Protiva (the "Company"), and Monsanto Company, a Delaware corporation ("Monsanto").

WHEREAS, Protiva, the Company and Monsanto entered into that certain Protiva-Monsanto Services Agreement on January 12, 2014 (the "Agreement"), and, contemporaneously with the execution of the Agreement: (a) Protiva, Arbutus, PadCo and Monsanto Canada entered into the Option Agreement and (b) PadCo, Protiva and Tekmira entered into the PadCo-Protiva License and Services Agreement;

WHEREAS, contemporaneously with the execution of this Amendment and as of the Effective Date: (a) the parties to the PadCo-Protiva License and Services Agreement are amending and restating the PadCo-Protiva License and Services Agreement, (b) the parties to the Option Agreement are amending and restating the Option Agreement, (c) Monsanto is exercising the Call Option to acquire all of the outstanding capital stock of PadCo, and (d) Closing is occurring;

WHEREAS, Protiva, the Company and Monsanto desire to amend the Agreement, effective as of the Effective Date, as set forth herein; and

NOW THEREFORE, in consideration of the representations, warranties, covenants and agreements contained herein, and for other valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties mutually agree to amend and modify the Agreement as follows:

1. All capitalized terms used in this Amendment, unless otherwise defined, shall have the meanings ascribed to such terms in the Agreement. In addition, the following terms shall have the following meanings for purposes of this Amendment:

(a) "Monsanto New Improvement" means an invention that is (i) Monsanto New Intellectual Property, (ii) claimed in an issued patent owned by Monsanto and having a priority date that is on or after the Effective Date, and (iii) the practice of which, if practiced at the time of said priority date, would be covered by at least one Valid Claim of a Patent that is a Protiva Background Patent or Protiva Project Patent.

(b) "Monsanto New Intellectual Property" means all inventions that are conceived by Monsanto Personnel on or after the Effective Date and that are covered by at least one Valid Claim of a Patent. For the avoidance of doubt inventions that were conceived by Monsanto Personnel in the conduct of activities under the Research Program and that are not Joint Project Intellectual Property are Monsanto Project Intellectual Property and not Monsanto New Intellectual Property.

2. The Parties acknowledge and agree that, as of the Effective Date, Monsanto Canada is exercising the Call Option prior to completion of Phase C (as such term is defined in the Research Program). Monsanto hereby elects to terminate research under the Research Plan as of the Effective Date and, therefore, the Parties acknowledge and agree that, on and as of the Effective Date, the Term of the Agreement shall be deemed to expire.

3. The following new subsection (c) is hereby added to Section 4.2 of the Agreement:

"(c) an irrevocable, worldwide, perpetual (subject to Sections 8.3 and 8.4), royalty-free, transferrable (subject to Section 9.1 below) license, with right to sublicense (subject to Section 4.3 below), in and to any Monsanto New Improvements for all purposes in the Protiva Field, which license shall be exclusive, other than in respect of any Monsanto New Improvements that Monsanto is obligated to license to a third party pursuant to any agreement in existence as of the Effective Date, in which case such license shall be non-exclusive.

4. References to "Monsanto Improvements" in Sections 4.1, 4.3, 4.7, 4.9, 4.10, 6.2, and 8.3(ii) of the Agreement shall be deemed to also refer to and include Monsanto New Improvements.

5. References to "Monsanto Project Intellectual Property" in Sections 4.1, 4.4, and 4.5 of the Agreement shall be deemed to also refer to and include Monsanto New Intellectual Property.

6. In all other respects, the terms, conditions, and covenants of the Agreement shall remain unchanged and any rights that either of the Parties may have under the Agreement shall remain in full force and effect.

7. This Amendment may be executed in two or more counterparts, each of which will be deemed an original and all of which together will constitute one and the same instrument. Each shall be considered signed when the signature of a Party is delivered by facsimile, electronic signature or electronic (email) transmission to the other Parties, when it is delivered in a manner that reasonably identifies the signatory as the Party named. Such electronic signatures shall be treated in all respects as having the same effect as an original signature. If requested by any Party, documents bearing an original signature may be subsequently and promptly submitted to replace copies bearing electronic signatures. By signing this Amendment the representatives of each Party thereby represent that such Person is duly authorized by the Party in question to execute this Amendment on behalf of such Party and that each respective Party agrees to be bound by the provisions thereof. The Parties to this document agree that a copy of the original signature (including

an electronic copy) may be used for any and all purposes for which the original signature may have been used.

IN WITNESS WHEREOF, the Parties hereto by their duly authorized representatives have caused this Amendment to be executed and delivered as of the date first shown above.

PROTIVA BIOTHERAPEUTICS, INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY, INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

MONSANTO COMPANY

By: /s/Robert M. McCarroll
Name: Robert M. McCarroll, Ph. D.
Title: VP, Chemistry Technology

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APPENDIX A

TO AMENDED AND RESTATED
PROTIVA AGRICULTURAL DEVELOPMENT COMPANY INC.
OPTION AGREEMENT

[***]

Confidential treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as [***]. A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

Confidential treatment has been requested for portions of this exhibit. The copy filed herewith omits the information subject to the confidentiality request. Omissions are designated as [***]. A complete version of this exhibit has been filed separately with the Securities and Exchange Commission.

AMENDED AND RESTATED

LICENSE AND SERVICES AGREEMENT

Between

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY INC.

on the one hand,

and

PROTIVA BIOTHERAPEUTICS INC.

and

ARBUTUS BIOPHARMA CORPORATION,

on the other hand

Dated: March 4, 2016

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AMENDED AND RESTATED

LICENSE AND SERVICES AGREEMENT

This Amended and Restated License and Services Agreement (this "Agreement") is entered into as of March 4, 2016 (the "Effective Date"), between Protiva Agricultural Development Company Inc., a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("PadCo"), on the one hand, and Protiva Biotherapeutics, Inc., a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("Protiva"), and Arbutus Biopharma Corporation (formerly, Tekmira Pharmaceuticals Corporation), a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("Arbutus"), on the other hand.

RECITALS

WHEREAS, Protiva and Arbutus own or Control Protiva Intellectual Property (as defined below) that is useful for the delivery of a variety of oligonucleotide products, including those that function through RNA interference or the modulation of microRNAs;

WHEREAS, PadCo, Protiva and Tekmira entered into that certain License and Services Agreement on January 12, 2014 (the "Original License"), and, contemporaneously with the execution of the Original License: (a) as consideration for the Transferred Protiva Rights and in full satisfaction of the Protiva Purchase Price, the Licensee issued the Protiva Note and one Class B Common share in the capital stock of Licensee to Protiva and granted to Protiva the rights set out in Section 3.3 of the Original License; (b) as consideration for the Transferred Tekmira Rights and in full satisfaction of the Protiva Purchase Price, the Licensee issued one Class A Common share in the capital stock of Licensee to Tekmira that was later transferred to Protiva; (c) Protiva, Tekmira, PadCo and Monsanto Canada entered into the Option Agreement and (d) Protiva and Monsanto entered into the Protiva-Monsanto Services Agreement;

WHEREAS, contemporaneously with the execution of this Agreement and as of the Effective Date: (a) the parties to the Protiva-Monsanto Services Agreement are amending the Protiva-Monsanto Services Agreement, (b) the parties to the Option Agreement are amending and restating the Option Agreement, (c) Monsanto Canada is exercising the Call Option to acquire all of the outstanding capital stock of PadCo, and (d) Closing is occurring;

WHEREAS, Protiva, Arbutus and PadCo desire to amend and restate the Original License, effective as of the Effective Date, upon the terms and subject to the conditions set forth in this Agreement; and

WHEREAS, as required by the terms of the Original License, Monsanto Canada has consented to the amendment and restatement of the Original License upon the terms and conditions of this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt of which is hereby acknowledged, PadCo, Arbutus and Protiva enter into this Agreement to amend and restate the Original License effective as of the Effective Date:

ARTICLE I – DEFINITIONS

1.1 General. When used in this Agreement, each of the following terms, whether used in the singular or plural, shall have the meanings set forth in this Article I.

"Affiliate" means, with respect to a Person, any corporation, company, partnership, joint venture and/or firm which controls, is controlled by, or is under common control with such Person. For purposes of the foregoing sentence, "control" means (a) in the case of corporate entities, direct or indirect ownership of at least fifty percent (50%) of the stock or shares having the right to vote for the election of directors, or (b) in the case of non-corporate entities, direct or indirect ownership of at least fifty percent (50%) of the equity interest with the power to direct the management and policies of such non-corporate entities.

"Agreement" has the meaning set forth in the introductory paragraph.

"Agricultural Field" means any and all applications in agriculture, horticulture, forestry, aquaculture, and/or residential (e.g., lawn and garden) markets relating to, for example, plants, fish, arthropods and/or pests and pathogens thereof. For the avoidance of doubt, Agricultural Field excludes, for example: (a) all human and animal (other than fish and arthropods) therapeutic, prophylactic, and diagnostic applications; and (b) modification of any cells, tissues, or organisms for the purpose of manufacturing heterologous proteins, peptides, or viruses for any purpose, including producing therapeutic products, other than the modification of plants, plant cells, or plant tissues for the purpose of manufacturing heterologous proteins, peptides, or viruses for application to plants, fish, arthropods, and/or pests or pathogens thereof.

"Applicable Laws" means all applicable laws, statutes, rules, regulations, guidelines, guidances, ordinances, orders, decrees, writs, judicial or administrative decisions and the like of any nation or government, any state or other political subdivision thereof, any entity exercising executive, judicial, regulatory or administrative functions of or pertaining to government (including any Governmental Authority), any tribunal or arbitrator of competent jurisdiction, and any trade organization whose regulations have the force of law.

"Arbutus" has the meaning set forth in the introductory paragraph.

"Background Patent Infringement Action" has the meaning set forth in Section 5.3(b).

"BIA" has the meaning set forth in Section 2.5.

"Call Option" has the meaning set forth in the Option Agreement.

"CCAA" has the meaning set forth in Section 2.5.

"Change of Control" has the meaning set forth in the Option Agreement.

"Channel Costs" means those costs incurred by a Party and its Affiliates in preparing and utilizing distribution channels for a Product (including product returns, customer rebates, dealer incentives, volume discounts, seed service fees, cash discounts (pre-pay discounts), local

competitive response, transportation or cargo insurance, and some of which, by way of example, are currently identified as "seed service fees," "crop loss and replant," "volume discount," and "seed action pack"), in all cases allocated to such Products in accordance with GAAP.

"Closing" has the meaning set forth in the Option Agreement.

"Code" has the meaning set forth in Section 2.4.

"Combination Product" means any Product that incorporates other technology and/or materials that embody Patents, Know-How, or other intellectual property rights, benefits, and/or value, including for example, seeds, seed treatments (chemicals or biopesticides), or transgenic or non-transgenic components of a plant genome; provided, however, that a Product will only be a Combination Product if such other technology and/or materials have been packaged and sold separately at any time.

"Commercial Milestone Payment" has the meaning set forth in Section 3.1(a).

"Commercialize" means any and all activities directed to marketing, promoting, distributing, importing, having imported, exporting, having exported, selling and having sold a Product, in each case for commercial purposes.

"Commercial Launch" means the first bona fide commercial sale of the Product in an arm's length transaction.

"Compound" means any molecule (a) that was Controlled by Protiva as of the Original Effective Date, (b) Discovered by Protiva or any of its Affiliates under the Research Program or in the performance of the Technology Transfer, (c) became (or becomes, as the case may be) under the Control of Protiva or any of its Affiliates during the period in which Protiva provided Services pursuant to the Research Program or conducts activities pursuant to the Technology Transfer.

"Confidential Information" means all proprietary or confidential information and materials, patentable or otherwise, of a Party disclosed by or on behalf of such Party to the other Party before, on or after the Original Effective Date, chemical substances, formulations, techniques, processes, methodology, equipment, data, reports, Know-How, sources of supply, patent positioning, business plans, and also each Party's proprietary and confidential information of Third Parties in possession of such Party under an obligation of confidentiality, whether or not related to making, using or selling Products.

"Control," "Controls" or "Controlled by" means, with respect to any Compound, Formulation, or Protiva Intellectual Property, the possession of (whether by ownership or license, other than pursuant to this Agreement), or the ability of Protiva or any of its Affiliates to grant access to, or a license or sublicense of, such Compound, Formulation, or Protiva Intellectual Property as provided for herein without violating the terms of any agreement or other arrangement with any Third Party existing at the time Protiva would be required hereunder to grant (or cause its Affiliates to grant) Licensee such access or license or sublicense.

"Cover," "Covers" or "Covered by" means, with respect to a Product, that, but for ownership of or a license or sublicense granted under a Valid Claim of a Protiva Background Patent or Protiva Project Patent, the Discovery, Development, Manufacture, and/or Commercialization with respect to such Product would infringe such Patent (or, if such Patent is a patent application, would infringe a patent issued from such patent application if such patent application were to issue with the claims pending in the patent application as of the moment the determination of "Cover," "Covers," or "Covered by" is being made).

"Develop," "Developing" or "Development" means any and all activities, testing and studies required to develop one or more Products for Regulatory Approval and/or commercial sale.

"Disclosing Party" has the meaning set forth in the Option Agreement.

"Discover", "Discovering" or "Discovery" means any and all research or discovery activities in respect of a Compound, Formulation, or Product.

"Effective Date" has the meaning set forth in the introductory paragraph.

"Formulation" means any chemical composition, including lipids, conjugates and polymers formulated with a variety of excipients, that (a) was Controlled by Protiva as of the Original Effective Date; (b) was designed, screened or tested under the Research Program or is designed, screened or tested by Protiva in the performance of the Technology Transfer; or (c) became (or becomes, as the case may be) under the Control of Protiva or any of its Affiliates during the period in which Protiva provided Services pursuant to the Research Program or conducts activities pursuant to the Technology Transfer.

"GAAP" means United States generally accepted accounting principles as in effect from time to time, consistently applied.

"Governmental Authority" means any United States or supra-national, foreign, federal, state, local, provincial, or municipal government, governmental, regulatory or administrative authority, agency, body, branch, bureau, instrumentality or commission or any court, tribunal, or judicial or arbitral body having relevant jurisdiction over a subject matter.

"Identified Infringement" has the meaning set forth in Section 5.4(b).

"Indemnified Party" has the meaning set forth in Section 7.3.

"Indemnifying Party" has the meaning set forth in Section 7.3.

"Infringement Action" means a Background Patent Infringement Action or a Project Patent Infringement Action.

"Initiating Party" has the meaning set forth in Section 5.4(d).

"Insolvent Party" has the meaning set forth in Section 8.4.

"Joint Project Intellectual Property" means (a) all inventions that were conceived jointly by: (i) Monsanto, employees of Monsanto, or other Persons owing a duty to assign to Monsanto ("Monsanto Personnel") *and* (ii) Protiva, any of its Affiliates, employees of Protiva or any of its Affiliates, or other Persons owing a duty to assign to Protiva or any of its Affiliates ("Protiva Personnel") in the conduct of activities under the Research Program ("Joint Project Inventions"), (b) all Know-How that was developed, created, made, discovered, or produced jointly by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Research Program, (c) all tangible works of expression that was co-authored by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Research Program, (d) all inventions that are conceived jointly by Monsanto Personnel *and* Protiva Personnel in the conduct of activities under the Technology Transfer ("Joint Technology Transfer Inventions"), (e) all Know-How that is developed, created, made, discovered, or produced jointly by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Technology Transfer, and (f) all tangible works of expression that are co-authored by Monsanto Personnel and Protiva Personnel in the conduct of activities under the Technology Transfer. In the event the same invention is conceived of independently by both Monsanto Personnel and Protiva Personnel in the conduct of activities under the Research Program or the Technology Transfer, such invention shall be Joint Project Intellectual Property.

"Joint Project Patents" means Patents that are directed to Joint Project Inventions or to Joint Technology Transfer Inventions.

"JRC" has the meaning set forth in the Option Agreement.

"JRC Protiva Project Infringement Matter" has the meaning set forth in Section 5.5.

"Knowingly" has the meaning set forth in the Option Agreement.

"Knowledge" has the meaning set forth in the Option Agreement.

"Know-How" means biological materials and other tangible materials, information, data, inventions, practices, methods, protocols, formulas, formulations, knowledge, know-how, trade secrets, processes, assays, skills, experience, techniques and results of experimentation and testing, patentable or otherwise (but excluding any marketing, financial, commercial, personnel and other business information and plans).

"Licensee" means PadCo or, in the event Monsanto Canada exercises the Call Option and receives from PadCo an assignment of all of PadCo's rights and obligations under this Agreement, shall mean Monsanto Canada or any permitted assignee of Monsanto Canada.

"Licensee Indemnitees" has the meaning set forth in Section 7.1.

"Losses" has the meaning set forth in Section 7.1.

"Manufacturing" or "Manufacture" means, with respect to a Product, all activities associated with the production, manufacture, packaging, labeling, releasing or processing of such Product.

"Monsanto" means Monsanto Company, a Delaware corporation.

"Monsanto Canada" means Monsanto Canada, Inc., a Canadian corporation.

"Monsanto Improvements" has the meaning set forth in the Protiva-Monsanto Services Agreement.

"Net Sales" means Value Captured for a Product less Channel Costs. Net Sales shall also be consistent with GAAP. For the avoidance of doubt, for a Combination Product, Net Sales shall be equitably apportioned for the contribution of Protiva Background Patents, Protiva Project Patents and/or Joint Project Patents in the Combination Product in a manner generally consistent with the then-current custom and practice.

"Non-Initiating Party" has the meaning set forth in Section 5.4(d).

"Option Agreement" means that certain option agreement by and between Protiva, Arbutus, PadCo and Monsanto Canada dated as of January 12, 2014, pursuant to which Protiva granted Monsanto Canada an exclusive option, as such agreement is amended and restated by the parties thereto effective as of the Effective Date and as such option agreement may be hereafter amended, restated, or otherwise modified from time to time.

"Original Effective Date" means January 12, 2014.

"Original License" has the meaning set forth in the Recitals.

"PadCo" has the meaning set forth in the introductory paragraph.

"Party" means either Licensee or Protiva; "Parties" means Licensee and Protiva. References to "Party" and "Parties", as applicable, shall also refer to Arbutus with respect to the Tekmira Patents and the rights and obligations related thereto.

"Patent" means any patent (including any reissue, extension, substitution, confirmation, re-registrations, re-examination, revival, supplementary protection certificate, patents of addition, continuation, continuation-in-part, or divisional) or patent application (including any provisional application, non-provisional patent application, continuation, continuation-in-part, divisional, PCT international applications or national phase applications), in each case whether in the U.S. or any foreign country.

"Person" means an individual, corporation, limited liability company, syndicate, association, trust, partnership, joint venture, unincorporated organization, government agency or any agency, instrumentality or political subdivision thereof, or other entity.

"Product" means any product or process in the Agricultural Field Covered by a Valid Claim of one or more of the Protiva Background Patents, Protiva Project Patents, or Joint Project Patents.

"Project Patent Infringement Action" has the meaning set forth in Section 5.4(b).

"Proposed Abandonment" has the meaning set forth in Section 5.6.

"Protiva" has the meaning set forth in the introductory paragraph.

"Protiva Background Patents" means Patents relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field that are (i) Controlled by Protiva and that are (1) independent of the activities under the Research Program and (2) exist (whether as pending applications, issued patents, or otherwise) as of the Original Effective Date and/or (ii) Controlled by Protiva or any of its Affiliates and that are (1) independent of the activities under the Research Program and (2) exist (whether as pending applications, issued patents, or otherwise) at any time during the period beginning immediately following the Original Effective Date and ending on the date that is [***]. For purposes of Sections 5.2(a), 5.3, 5.5, and 5.6 references to "Protiva Background Patents" shall be deemed to also refer to Tekmira Patents (and, as applicable, references to Protiva shall be deemed to refer to Arbutus).

"Protiva Indemnitees" has the meaning set forth in Section 7.2.

"Protiva Intellectual Property" means Protiva Know-How, Protiva Background Patents, Protiva Project Patents, Protiva Research Data and Tekmira Patents.

"Protiva Know-How" means Know-How relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field which is Controlled by (a) Protiva on the Original Effective Date and/or (b) Protiva or any of its Affiliates at any time during the period beginning immediately following the Original Effective Date and ending on the date the Technology Transfer is complete in accordance with the Technology Transfer Completion Criteria; provided, however, Protiva Know-How shall exclude Protiva Background Patents, Protiva Project Patents, and Joint Project Intellectual Property.

"Protiva License" means all rights and licenses in and to the Protiva Intellectual Property, and all other rights, granted to Licensee, or to which Licensee is otherwise entitled, pursuant to this Agreement, together with the benefit of (and subject to) all representations, warranties, covenants, and terms related to the Protiva Intellectual Property as set forth in this Agreement.

"Protiva-Monsanto Services Agreement" means that certain services agreement by and between Protiva and Monsanto dated as of January 12, 2014, pursuant to which, among other things, Monsanto agreed to conduct services for Protiva to screen Compounds and/or Formulations according to the Research Program, as such services agreement is amended by the amendment thereto effective as of the Effective Date, and as such services agreement may be hereafter amended, restated, or otherwise modified from time to time.

"Protiva Note" means a non-interest-bearing demand promissory note in the principal amount of [***].

"Protiva Project Inventions" means inventions that are not Joint Project Intellectual Property and that were conceived by Protiva Personnel in the conduct of the Services or other activities under the Research Program pursuant to the Original License or that are conceived by Protiva Personnel in the conduct of activities under the Technology Transfer.

"Protiva Project Patents" means Patents that are directed to Protiva Project Inventions.

"Protiva Purchase Price" shall mean [***].

"Protiva Research Data" means (a) all information and data provided to Licensee and the JRC pursuant to Section 4.3 of the Original License and (b) all summary reports, data and other information Protiva provides or is required to provide pursuant to the Technology Transfer.

"Receiving Party" has the meaning set forth in the Option Agreement.

"Record Retention Period" has the meaning set forth in Section 3.1(c).

"Research" or "Researching" means identifying, evaluating, testing, validating and/or optimizing Compounds, Formulations or Products.

"Research Plan" has the meaning set forth in the Option Agreement.

"Research Program" means the program to design and synthesize Compounds and/or Formulations and to conduct research and development activities for such Compounds and/or Formulations as described in the Research Plan.

"Response Deadline" has the meaning set forth in Section 5.6.

"Services" means the research services described in the Research Plan, activities conducted by or on behalf of Protiva or its Affiliates pursuant to the Research Plan or otherwise pursuant to the Original License, and activities conducted by or on behalf of Protiva or its Affiliates in the performance of the Technology Transfer.

"Solvent Party" has the meaning set forth in Section 8.4.

"Sublicensee" means a Third Party to whom Licensee has granted a sublicense pursuant to the terms hereof.

"Tax Act" means the Income Tax Act (Canada).

"Tax Value" means, in respect of the rights transferred to the Licensee hereunder, where the respective transferred right is eligible capital property under the Tax Act, the least of the amounts referred to in subparagraphs 85(1)(d)(i), (ii) and (iii) of the Tax Act; where the respective transferred right is capital property under the Tax Act, the least of the amounts referred to in subparagraphs 85(1)(c.1)(i) and (ii) of the Tax Act; and where the respective transferred right is depreciable property under the Tax Act, the least of the amounts referred to in subparagraphs 85(1)(e)(i), (ii) and (iii) of the Tax Act.

"Technology Transfer" has the meaning set forth in the Option Agreement.

"Technology Transfer Completion Criteria" shall mean the criteria outlined in Exhibit B-6.

"Technology Transfer Compound List" means a complete list of the components (including Compounds, Formulations, and Compound structures) and ratios of each LNP Composition (as such term is defined in the Technology Transfer Compound Criteria) tested during Phase A (as such term is defined in the Research Program) of the Research Plan as to which the representation and warranty in Section 9.1(b)(vi) is true and correct as of the Effective Date.

"Tekmira" means Tekmira Pharmaceuticals Corporation, predecessor to Arbutus.

"Tekmira Patents" means Patents relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field that were Controlled by Tekmira as of the Original Effective Date, other than the Patents listed on Exhibit A.

"Tekmira Purchase Price" has the meaning set forth in Section 3.2(b).

"Term" means the term described in Section 8.1.

"Territory" means worldwide.

"Third Party" means any Person other than Protiva, Licensee or any of their respective Affiliates.

"Third Party Claim" has the meaning set forth in Section 7.3.

"Transaction Agreements" shall mean this Agreement, the Protiva-Monsanto Services Agreement, the Option Agreement, and such other documents entered into in connection therewith.

"Transferred Protiva Rights" means the licenses granted by Protiva to Licensee set forth in Section 2.1.

"Transferred Tekmira Rights" means the licenses granted by Arbutus to Licensee set forth in Section 2.1.

"UBC" means the University of British Columbia.

"UBC IP" means the patent families set forth in Exhibit A.

"Valid Claim" means a claim of: (a) an issued and unexpired Protiva Project Patent, Protiva Background Patent, or Joint Project Patent, as applicable, which claim has not been revoked or held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, which is not appealable or has not been appealed within the time allowed for appeal, and which has not been abandoned, disclaimed, denied, or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise, or (b) a patent application that is a Protiva Project Patent, a Protiva Background Patent, or a Joint Project Patent, as applicable, that has not been pending for more than eight years after the original priority date for said application and that has not been cancelled, withdrawn or abandoned, or finally rejected by an administrative agency action, which is not appealable or has not been appealed within the time allowed for appeal; provided, however, that for purposes of defining Products for purposes of Section 3.1(a), a claim

of a pending application shall be a Valid Claim only if such claim has been identified in an office action (or other office communication) issued by the U.S. Patent and Trademark Office in connection with the prosecution of such application (x) as allowable, or (y) allowable but for its dependency on a rejected independent claim (the conditions of (x) and (y) collectively referred to as "Allowable") during the 10-year period following the Commercial Launch of the first Product, such claim as Allowable Covers the Product, and, during such period, the designation of such claim as Allowable has not been reversed or otherwise rejected in subsequent prosecution of such application and no substantive amendments have been made to such claim (or any claims from which it depends) during prosecution of such application since its designation as Allowable, wherein the substantive amendment(s) results in the claim no longer Covers the Product.

"Value Captured" means the gross amount invoiced on sales of the Products by a Party and its Affiliates and Sublicensees in the Agricultural Field in the Territory. For a Combination Product, the Value Captured shall be determined in accordance with the foregoing sentence, except that the gross amount invoiced on sales of the Combination Product will be reduced on a per unit basis by the invoice amount of the other technology and/or materials in the Combination Product when sold separately.

1.2 Interpretation. Words such as "herein", "hereinafter", "hereof" and "hereunder" refer to this Agreement as a whole and not merely to a section, paragraph or clause in which such words appear, unless the context otherwise requires. Enumerative references to sections, paragraphs or clauses, or exhibits, without reference to an explicit agreement, document or exhibit, refer to this Agreement or exhibits attached to this Agreement, as applicable. The singular shall include the plural, and each masculine, feminine and neuter reference shall include and refer also to the others, unless the context otherwise requires. The words "include", "includes" and "including" are deemed to be followed by "without limitation" or words of similar import. Except where the context otherwise requires, the word "or" is used in the inclusive sense (and/or). All dollar amounts are expressed in U.S. dollars.

ARTICLE II – LICENSE GRANTS AND RELATED RIGHTS

2.1 **License Grants to Licensee.** Subject to the terms and conditions of this Agreement, effective as of the Original Effective Date, Protiva (and with respect to the Tekmira Patents only, Arbutus) hereby grants to Licensee an irrevocable, worldwide, perpetual (subject to Article VIII), fully paid-up, transferrable (subject to Section 9.4), sublicensable (subject to Section 2.2), exclusive (even as to Protiva, except as provided in Section 2.3, and even as to Arbutus with respect to the Tekmira Patents) right and license under the Protiva Intellectual Property for all purposes in the Agricultural Field, including to Discover, Develop, Commercialize and Manufacture Products, and to discover, develop, commercialize, and manufacture other products and processes that use or employ Protiva Intellectual Property, in the Agricultural Field. In the event Licensee reasonably determines that any Patent or Know-How owned or Controlled by Arbutus or its Affiliate (other than Protiva) to which Licensee does not have a license under this Agreement is relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and/or their use in the Agricultural Field, then upon Licensee's request, Protiva shall cause Arbutus or such Affiliate to promptly grant a license in and to such Patent or Know-How to Licensee under this

Agreement, and such Patent or Know-How shall thereafter be included in Protiva Intellectual Property for all purposes of this Agreement. For the avoidance of doubt, (a) Protiva has not granted to Licensee any right or license to the Protiva Intellectual Property outside of the Agricultural Field, (b) Licensee shall have the right to develop and manufacture Compounds and Formulations in connection with the exercise of its rights to Discover, Develop, Commercialize and Manufacture Products, and to discover, develop, commercialize, and manufacture other products and processes that use or employ Protiva Intellectual Property, in the Agricultural Field, and (c) all UBC IP is expressly excluded from this Agreement, and Licensee is not granted any rights in or to any UBC IP, other than as may be granted pursuant to the second sentence of this Section 2.1.

2.2 **Sublicensing.**

(a) Licensee may grant sublicenses of any or all of its licensed rights under the Protiva Intellectual Property for any purposes within the Agricultural Field, but solely within the Agricultural Field; provided, however, that any sublicense granted by Licensee shall be subject and subordinate to the terms and conditions of this Agreement and shall contain terms and conditions consistent with those in this Agreement. Licensee shall assume full responsibility for the performance of all obligations and observance of all terms herein under the licenses granted to it. If Licensee becomes aware of a material breach of any sublicense by a Sublicensee, Licensee shall promptly notify Protiva of the particulars of same and take all reasonable efforts to enforce the terms of such sublicense. Any agreement between Licensee and the Sublicensee shall provide that such Sublicensee may only use the Confidential Information of Protiva in accordance with terms of this Agreement applicable to Licensee's use of such Confidential Information and subject to provisions at least as stringent as those set forth in Article VI, and Protiva shall be an express third party beneficiary of such agreement, including provisions related to use and disclosure of Confidential Information. Subject to the foregoing provisions of this Section 2.2(a), Sublicensees shall have the right to further sublicense Protiva Intellectual Property in the Agricultural Field to Third Parties.

(b) Unless otherwise provided in this Agreement, Licensee shall notify Protiva within thirty (30) days after execution of a sublicense entered into hereunder and provide a copy of the fully executed sublicense agreement to Protiva within the same time, which shall be treated as Confidential Information of Licensee under Article VI.

2.3 **Grant Back . Licensee agrees to grant and hereby grants to Protiva a non-exclusive right and license under the Protiva Intellectual Property to Discover and Develop Products in the Agricultural Field for purposes of performing the Technology Transfer. This right and license shall terminate following completion of all activities pursuant to the Technology Transfer.**

2.4 **Retained Rights**. Protiva expressly retains any rights not expressly granted to Licensee under this Article II (or otherwise under this Agreement). Nothing in Section 2.1 limits Protiva's ability to perform its obligations under this Agreement, the Protiva-Monsanto Service Agreement or the Option Agreement. For purposes of clarity and without limitation, Protiva has exclusively retained (even as to Licensee) the right to use and employ Protiva Intellectual Property (alone or with Third Parties) in connection with any and all activities related to the Discovery, Development, Commercialization and manufacture (including Manufacture) of Compounds, Formulations and products outside the Agricultural Field in the Territory.

2.5 **Rights in Bankruptcy.** All licenses and rights to licenses granted under or pursuant to this Agreement by Protiva to Licensee are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code (the "Code") and Section 65.11(7) of the Bankruptcy and Insolvency Act (Canada) (the "BIA") and Section 32(6) of the Companies' Creditors Arrangment Act (Canada) (the "CCAA"), licenses of rights to "intellectual property" as defined under Section 101(35A) of the Code, and as utilized generally in the BIA and CCAA. Licensee, as a licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Code, and that upon commencement of a bankruptcy proceeding by or against Protiva (or any Affiliate of Protiva that owns or Controls Protiva Intellectual Property) under the Code, Licensee shall be entitled to a complete duplicate of, or complete access to (as Licensee deems appropriate), any such intellectual property and all embodiments of such intellectual property. Such intellectual property and all embodiments thereof shall be promptly delivered to Licensee (a) upon any such commencement of a bankruptcy proceeding upon written request therefore by Licensee, unless Protiva (or its Affiliate) elects to continue to perform all of its obligations under this Agreement or (b) if not delivered under (a) above, upon the rejection of this Agreement by or on behalf of Protiva upon written request therefor by Licensee. The foregoing provisions are without prejudice to any rights Licensee may have arising under the Code or other Applicable Law.

2.6 **Compliance With Applicable Laws .** Each Party shall conduct its obligations under this Agreement, and conduct the Discovery, Development, Manufacture and Commercialization of the Products, in all material respects in accordance with Applicable Laws.

ARTICLE III – FINANCIAL PROVISIONS

3.1 **Payment for License .**

(c) Licensee shall pay promptly to Protiva: (i) a one-time, non-refundable, non-creditable payment in the amount of [***] upon the first to occur, if either, of (x) the Net Sales in the Territory of Products by Monsanto or its Affiliates equals or exceeds [***] in any single year during the 10-year period following Commercial Launch of the first Product, or (y) the aggregate Net Sales in the Territory of Products by Monsanto or its Affiliates equals or exceeds [***] cumulatively over the 10-year period following the Commercial Launch of the first such Product and (ii) a one-time, non-refundable, non-creditable payment in the amount of [***] if in any single year during the 10-year period following Commercial Launch of the first Product, the Net Sales in the Territory of Products by Monsanto or its Affiliates equals or exceeds [***] (each a "Commercial Milestone Payment"). The amount of any Commercial Milestone Payment shall be reduced, if applicable, in accordance with Monsanto's right of set off and/or any reduction in the amount of

the Commercial Milestone Payment as a result of a Change of Control of Protiva or Arbutus, in each case under Section 3(f) or 3(g) of the Option Agreement.

(d) Any payments due from Licensee to Protiva under Section 3.1 of this Agreement that are not paid by the date such payments are due shall bear interest at LIBOR plus two percent (2%) per month from the date such unpaid payments are due until paid in full. The foregoing interest shall be in addition to any other remedies that the Protiva may have pursuant to this Agreement.

(e) During the period of time beginning upon termination of Protiva's obligation to provide the Services, as set forth in the Original License, and ending on expiration of the 10-year period following Commercial Launch of the first Product (the "Record Retention Period"), Licensee shall maintain and retain (and shall cause Monsanto and its Affiliates to maintain and retain) complete and accurate books of account and records covering all transactions relating to payment of amounts that may be due under Section 3.1(a) of this Agreement, then until expiration of the two (2) year period following expiration of the Record Retention Period, shall make such books and records available for inspection and audit by Protiva's authorized representative (which shall be a national certified public accounting firm), subject to reasonable precautions to protection of confidential information of Licensee, Monsanto, or its Affiliates (including Confidential Information), for the purpose of verifying the accuracy of all payments that may be due under Section 3.1(a) of this Agreement. Protiva shall pay the cost of such audit unless it discovers that Licensee has underreported aggregate Gross Profits during any year in the Record Retention Period to Protiva by an amount of at least [***], in which case the costs of such audit shall be borne by Licensee.

3.2 **Payment for License .**

(a) As consideration for the Transferred Protiva Rights, and in full satisfaction of the Protiva Purchase Price, the Licensee (i) issued to Protiva the Protiva Note, (ii) issued to Protiva one Class B Common share without par value in the capital stock of the Licensee as a fully paid and non-assessable share, and (iii) granted to Protiva the rights set out in Section 3.3.

(b) As consideration for the Transferred Tekmira Rights, and in full satisfaction of the Tekmira Purchase Price, the Licensee issued to Tekmira one Class A Common share without par value in the capital stock of the Licensee as a fully paid and non-assessable share. [***].

3.1 **Protiva Subsection 85(1) Election**

(a) Protiva and Licensee have jointly made and filed an election under subsection 85(1) of the Tax Act (the "Protiva Election") in the prescribed form and within the time required by subsection 85(6) of the Tax Act in respect of the transfer of the Transferred Protiva Rights and have elected therein that the elected amount will be deemed to be Protiva's proceeds of disposition and the Licensee's cost of the Transferred Protiva Rights (the "Protiva Elected Amount").

(b) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments on the basis that the fair market value of

the Transferred Protiva Rights at the time of transfer is greater or less than the Protiva Purchase Price, then:

(i) upon the fair market value of the Transferred Protiva Rights being finally determined by the agreement of Protiva and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Protiva Purchase Price will be deemed conclusively to have always been the amount so determined, and this Agreement will be deemed to be amended as of the Effective Date to reflect such Protiva Purchase Price as determined under this Section 3.4(b)(i); and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Protiva at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment reporting a new fair market value of the Transferred Protiva Rights based on the amounts determined pursuant to section 3.4(b)(i) of this Agreement.

(c) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments, on the basis that the Protiva Elected Amount set out in the Protiva Election is greater or less than the applicable Tax Values of the Transferred Protiva Rights, then:

(i) upon the applicable Tax Values being finally determined, by the Agreement of Protiva and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Protiva Elected Amount will be deemed conclusively to have always been such finally determined Tax Value; and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Protiva at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment electing such amount as is deemed to be the Protiva Elected Amount under Section 3.4(c)(i).

3.2 **Tekmira Subsection 85(1) Election**

(c) Tekmira and Licensee have jointly made and filed an election under subsection 85(1) of the Tax Act (the "Tekmira Election") in the prescribed form and within the time required by subsection 85(6) of the Tax Act in respect of the transfer of the Transferred Tekmira Rights and have elected therein that the elected amount will be deemed to be Arbutus' proceeds of disposition and the Licensee's cost of the Transferred Tekmira Rights (the "Tekmira Elected Amount").

(d) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments on the basis that the fair market value of the Transferred Tekmira Rights at the time of transfer is greater or less than the Tekmira Purchase Price, then:

(i) upon the fair market value of the Transferred Tekmira Rights being finally determined by the agreement of Arbutus and the Licensee with the Canada Revenue Agency if they

do so agree, or by final determination by a court of competent jurisdiction if they do not, the Tekmira Purchase Price will be deemed conclusively to have always been the amount so determined, and this Agreement will be deemed to be amended as of the Effective Date to reflect such Tekmira Purchase Price as determined under this Section 3.5(b)(i); and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Arbutus at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment reporting a new fair market value of the Transferred Tekmira Rights based on the amounts determined pursuant to section 3.5(b)(i) of this Agreement.

(e) If the Canada Revenue Agency or any other competent authority at any time hereafter proposes to issue or issues any assessment or assessments, on the basis that the Tekmira Elected Amount set out in the Tekmira Election is greater or less than the applicable Tax Values of the Transferred Tekmira Rights, then:

(i) upon the applicable Tax Values being finally determined, by the agreement of Arbutus and the Licensee with the Canada Revenue Agency if they do so agree, or by final determination by a court of competent jurisdiction if they do not, the Tekmira Elected Amount will be deemed conclusively to have always been such finally determined Tax Value; and

(ii) if permitted under the Tax Act or the administrative discretion of the Canada Revenue Agency, Arbutus at its sole discretion may file an amended election under subsection 85(7.1) of the Tax Act along with the appropriate penalty payment electing such amount as is deemed to be the Tekmira Elected Amount under Section 3.5(c)(i).

ARTICLE IV – SERVICES

4.1 **Termination of Services Obligations.** The Parties acknowledge and agree that, as of the Effective Date, Monsanto Canada is exercising the Call Option prior to completion of Phase C (as such term is defined in the Research Program). Monsanto Canada hereby elects to terminate research under the Research Plan as of the Effective Date and, therefore, the Parties acknowledge and agree that, on and as of the Effective Date, Protiva's obligation to provide Services under this Agreement terminates; provided, however, that, for the avoidance of doubt, from and after the Effective Date, Protiva remains obligated to provide the Technology Transfer in accordance with the Option Agreement through completion of the Technology Transfer in accordance with the Technology Transfer Completion Criteria.

ARTICLE V – INTELLECTUAL PROPERTY

5.1 **Ownership.** Subject to the licenses granted by Protiva herein, Protiva is and shall at all times remain the owner of the Protiva Intellectual Property, including, for the avoidance of doubt, Protiva Project Patents. As more particularly set forth in the Protiva-Monsanto Services Agreement, and subject to the license granted by Monsanto in the Protiva-Monsanto Services Agreement, Monsanto is and shall at all times remain owner of any Joint Project Intellectual Property.

5.2 **Prosecution and Maintenance of Patents.**

(a) Subject to Section 5.6, Protiva shall have the sole right and responsibility, in its sole discretion and at its sole cost and expense, to file, prosecute, maintain and/or abandon patent protection in the Territory for Protiva Background Patents.

(b) During the Term, decisions regarding the filing of Patent protection in the Territory for Protiva Project Inventions and decisions regarding the prosecution, maintenance and/or abandonment of Protiva Project Patents in the Territory shall be made by Protiva and/or the JRC in accordance with the applicable provisions of the Option Agreement and, subject to and in accordance with such provisions, Protiva shall be responsible for implementing Protiva's and/or the JRC's decisions regarding the filing, prosecution, maintenance, and/or abandonment of Protiva Project Patents in the Territory. Except as otherwise set out in the Option Agreement, all costs and fees incurred in connection with the filing, prosecution, maintenance and/or abandonment of all Protiva Project Patents through the Effective Date shall be the sole responsibility of Protiva; all costs and fees incurred in connection with the filing, prosecution, maintenance and/or abandonment of all Protiva Project Patents after the Effective Date shall be the sole responsibility of Licensee.

5.3 Third-Party Infringement of Protiva Background Patents.

(a) Each Party shall promptly report in writing to the other Party during the Term known or suspected commercially relevant infringement by a Third Party of any of the Protiva Background Patents in any field and any known or suspected infringement by a Third Party of any of the Protiva Background Patents in the Agricultural Field of which such Party becomes aware and shall provide the other Party with all evidence supporting or relating to such infringement in its possession.

(b) Protiva shall have the sole and exclusive right to initiate an infringement or other appropriate suit with respect to infringements or suspected infringements of any of the Protiva Background Patents, or to take such other actions as Protiva, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements ("Background Patent Infringement Action"). Protiva shall notify Licensee promptly after initiating any Background Patent Infringement Action.

(c) With respect to any Background Patent Infringement Action initiated on or after the Effective Date directed to infringement occurring at least in part in the Agricultural Field: (i) Licensee may join such Infringement Action as a party if it has standing to do so (at its own cost and expense), may retain counsel at its own cost and expense to provide advice to Licensee regarding such Infringement Action, and may share all information regarding the Infringement Action provided by Protiva with such counsel, and, if Licensee has joined such Infringement Action, such counsel shall be permitted to attend meetings, discussions, or other activities relating to the Infringement Action on behalf of Licensee; and (ii) Provita agrees to give due consideration to any recommendations or suggestions of Licensee in connection with the Infringement Action, but shall not be obligated to implement or follow any such recommendations or suggestions. After the Effective Date, Protiva shall not enter into any settlement or compromise in connection with any Background Patent Infringement Action that would eliminate, diminish, or otherwise modify any right, title, or interest of the Licensee in any Protiva Intellectual Property or that would require any payments, concessions,

or otherwise bind the Licensee, without the Licensee's prior written consent, which consent shall not be unreasonably withheld; for the avoidance of doubt, any settlement or compromise that permits continuation of Licensee's rights in and to Protiva Intellectual Property in the same manner and subject to the same terms and conditions as set forth in this Agreement shall not require Licensee's prior consent. Licensee shall provide reasonable cooperation and assistance in connection with a Background Patent Infringement Action initiated by Protiva (including being joined as a party in such Background Patent Infringement Action) at Protiva's reasonable request and sole cost.

5.4 Third-Party Infringement of Protiva Project Patents.

(a) Each Party shall promptly report in writing to the other Party during the Term known or suspected commercially relevant infringement by a Third Party of any of the Protiva Project Patents in any field and any known or suspected infringement by a Third Party of any of the Protiva Project Patents in the Agricultural Field of which such Party becomes aware and shall provide the other Party with all evidence supporting or relating to such infringement in its possession.

(b) Protiva shall have the right, but not the obligation, to initiate an infringement or other appropriate suit with respect to infringements or suspected infringements of any of the Protiva Project Patents, or to take such other actions as Protiva, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements ("Project Patent Infringement Action"). If Protiva declines to commence a Project Patent Infringement Action with respect to a particular actual or threatened infringement of any issued patent within the Protiva Project Patents (an "Identified Infringement") within sixty (60) days following its receipt of a written request from Licensee that it initiate a Project Patent Infringement Action with respect to such Identified Infringement, or if Protiva otherwise fails to confirm that it will commence a Project Patent Infringement Action with respect to such Identified Infringement within such sixty (60) day period, then Licensee may thereafter commence a Project Patent Infringement Action with respect to such Identified Infringement. Licensee shall use reasonable best efforts to notify Protiva prior to initiating any Project Patent Infringement Action and shall continue to inform Protiva of the status of any Project Patent Infringement Action initiated by Licensee, including by responding to Protiva's reasonable requests for status reports, providing drafts of substantive filings of Licensee prior to the due date for such filings, and providing copies of substantive filings of any other party to any such Project Patent Infringement Action promptly after receiving such filings. If any monetary judgment or settlement is recovered in connection with any Project Patent Infringement Action initiated by Licensee or Protiva in accordance with this Section 5.4(b), then, after Licensee or Protiva, as applicable, recoups actual costs and reasonable expenses associated with such Project Patent Infringement Action, (i) then if the monetary judgment or settlement is primarily attributable to infringement in the Agricultural Field, Licensee shall be entitled to receive from the remainder an amount equal to all direct damages attributable to infringement in the Agricultural Field awarded in such judgment or payable under such settlement; Protiva shall then be entitled to receive from the remainder after such payment to Licensee, if any, an amount equal to all direct damages attributable to infringement outside of the Agricultural Field awarded in such judgment or payable under such settlement; and the balance, if any, remaining after such payments to Licensee and Protiva shall be allocated and payable [***] to Licensee and [***] to Protiva; or (ii) if the monetary judgment or settlement is primarily attributable to infringement outside of the Agricultural Field,

Protiva shall be entitled to receive from the remainder an amount equal to all direct damages attributable to infringement outside of the Agricultural Field awarded in such judgment or payable under such settlement, Licensee shall then be entitled to receive from the remainder after such payment to Protiva, if any, an amount equal to all direct damages attributable to infringement in the Agricultural Field awarded in such judgment or payable under such settlement; and the balance, if any, remaining after such payments to Protiva and Licensee shall be allocated and payable [***] to Licensee and [***] to Protiva.

(c) Protiva shall use reasonable best efforts to notify Licensee prior to initiating any Project Patent Infringement Action and shall continue to inform Licensee of the status of any Project Patent Infringement Action initiated by Protiva, including by responding to Licensee's reasonable requests for status reports, providing drafts of substantive filings of Protiva prior to the due date for such filings, and providing copies of substantive filings of any other party to any such Infringement Action promptly after receiving such filings.

(d) Each Party (as a "Non-Initiating Party"), with respect to a Project Patent Infringement Action initiated by the other Party (as an "Initiating Party"), may join such Infringement Action as a party if it has standing to do so (at its own cost and expense), may retain counsel at its own cost and expense to provide advice to the Non-Initiating Party regarding such Infringement Action, and may share all information regarding the Infringement Action provided by the Initiating Party with such counsel, and, if the Non-Initiating Party has joined such Infringement Action, such counsel shall be permitted to attend meetings, discussions, or other activities relating to the Infringement Action on behalf of the Non-Initiating Party. The Initiating Party agrees to give due consideration to any recommendations or suggestions of the Non-Initiating Party in connection with a Project Patent Infringement Action, but shall not be obligated to implement or follow any such recommendations or suggestions; provided however, that the Initiating Party shall not enter into any settlement or compromise in connection with a Project Patent Infringement Action that would eliminate, diminish, or otherwise modify any right, title, or interest of the Non-Initiating Party in any Protiva Intellectual Property or that would require any payments, concessions, or otherwise bind the Non-Initiating Party, without the Non-Initiating Party's prior written consent, which consent shall not be unreasonably withheld; for the avoidance of doubt, any settlement or compromise that permits continuation of the Non-Initiating Party's rights in and to Protiva Intellectual Property in the same manner and subject to the same terms and conditions as set forth in this Agreement shall not require the Non-Initiating Party's prior consent. The Non-Initiating Party shall provide reasonable cooperation and assistance in connection with a Project Patent Infringement Action initiated by the Initiating Party (including being joined as a party in such Project Patent Infringement Action) at the Initiating Party's reasonable request and sole cost.

5.5 Defense of Claims Brought by Third Parties . Each Party shall promptly notify the other Party if it becomes aware of any claim that Licensee's actual use or practice of Compounds or Formulations within the Protiva Intellectual Property, or Licensee's methods of creating or using such Formulations or Compounds, in connection with its exercise of its license under Section 2.1 infringes, misappropriates, or otherwise violates the intellectual property rights of any Third Party in the Agricultural Field. In any such instance, the Parties shall cooperate and shall mutually agree upon an appropriate course of action; provided, however, that in the absence of any such agreement,

(i) any such matter relating to Protiva Project Patents (such matter a "JRC Protiva Project Infringement Matter") shall be referred to the JRC to be addressed in the manner set forth in the Option Agreement, and (ii) Protiva shall have sole right to determine what action, if any, should be taken in respect of Protiva Background Patents. Each Party shall provide to the other Party copies of any notices it receives from Third Parties regarding any patent nullity actions regarding the Protiva Background Patents or the Protiva Project Patents, any declaratory judgment actions and any alleged infringement or misappropriation of Third Party intellectual property rights arising out of Licensee's use or practice of the Protiva Intellectual Property in connection with its exercise of its license under Section 2.1. Each Party shall be responsible for its own costs incurred pursuant to this Section 5.5; provided, however, that nothing in this Section 5.5 or elsewhere in this Agreement shall be deemed to eliminate, reduce, or otherwise modify any liability or obligation of Protiva in respect of the Protiva Intellectual Property or Licensee's (or its Sublicensees') use or practice of the Protiva Intellectual Property in connection with its exercise of its license under Section 2.1, including but not limited to any such liability or obligation that may arise out of any representation, warranty, or covenant made by Protiva under the Option Agreement or any other Transaction Agreement; and provided further, however, that nothing in this Section 5.5 shall be deemed to limit or eliminate a Party's right to defend actions initiated by a Third Party against such Party, except to the extent such rights may be limited under any indemnification provisions applicable to such actions.

5.6 Disclosures and Opt-In Rights Regarding Protiva Background Patents. If, during the Term, Protiva decides not to pay the maintenance fee, annuity fee, or similar fee due on any Protiva Background Patent or decides to abandon or discontinue prosecution of any Protiva Background Patent (each a "Proposed Abandonment") and if (a) such Proposed Abandonment will not be accompanied by the proper filing of a continuation or continuation-in-part application for a Protiva Background Patent and (b) there will be no remaining Protiva Background Patent in the same country or jurisdiction in which the abandoned or discontinued Protiva Background Patent was filed that will substantially maintain the value of Licensee's exclusive license under the Protiva Background Patents in the Agricultural Field, Protiva shall notify Licensee at least sixty (60) days in advance of any applicable administrative deadline, maintenance fee due date, or response date after or upon which such Protiva Background Patent will be or become abandoned or trigger a similar loss of rights in jurisdictions other than the United States (the "Response Deadline"), such notice to include the Response Deadline. Upon written request of Licensee, Protiva shall promptly assign to Licensee all of its right, title, and interest in and to such Protiva Background Patent unless (x) such Protiva Background Patent is assigned to a Third Party who takes all steps necessary to prevent the Proposed Abandonment and (y) Licensee retains its license to such Protiva Background Patent on the terms and conditions set forth in this Agreement; Protiva shall thereafter have no further right, title, or interest in or to such Protiva Background Patent, except that Protiva shall thereafter have a perpetual, fully paid-up, non-exclusive right and license under such Protiva Background Patent for all uses in the Protiva Field. To the extent necessary or appropriate to prevent the abandonment or similar loss of rights of a Protiva Background Patent assigned or to be assigned to Licensee, Protiva shall take such other steps (including submission of filings or payments on behalf of Licensee or Monsanto) that are reasonably requested by Licensee (or Monsanto), at Licensee's (or Monsanto's) sole cost and expense.

5.7 Joint Research Committee Oversight. From and after termination of the Option Agreement, then until the disbandment of the JRC by unanimous vote of the JRC at any time after expiration of the last to expire Valid Claim of a Protiva Project Patent or a Joint Project Patent, the JRC shall remain in existence and shall perform the functions described in this Agreement and any other Transaction Agreements according to the general processes and procedures set out in the Option Agreement (as such processes and procedures may be modified by the unanimous vote of the JRC). For the avoidance of doubt, the JRC's oversight of Protiva Project Patents shall terminate if this Agreement terminates.

ARTICLE VI – CONFIDENTIAL INFORMATION AND PUBLICITY

6.1 Non-Disclosure of Confidential Information . Each Party agrees that, for itself and its Affiliates, until the first to occur of (i) [***] or (ii) [***], a Receiving Party shall maintain all Confidential Information of the Disclosing Party in strict confidence and shall not (a) disclose Confidential Information to any third party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted below or (b) use Confidential Information for any purpose except those explicitly licensed or otherwise authorized or permitted by this Agreement or any other Transaction Agreement.

6.2 Exceptions . The obligations in Section 6.1 will not apply with respect to any portion of the Confidential Information that the Receiving Party can show by competent proof: (i) was known to the Receiving Party or its Affiliates, without any obligation to keep it confidential or any restriction on its use, prior to disclosure by the Disclosing Party; (ii) is subsequently disclosed to the Receiving Party or its Affiliates by a Third Party lawfully in possession thereof and without any obligation to keep it confidential or any restriction on its use; (iii) is or otherwise becomes generally available to the public or enters the public domain, either before or after it is disclosed to the Receiving Party and such public availability is not the result, directly or indirectly, of any fault of, or improper taking, use or disclosure by, the Receiving Party or its Affiliates or anyone working in concert or participation with the Receiving Party or its Affiliates; or (iv) has been independently developed by employees or contractors of the Receiving Party or its Affiliates without the aid, application or use of Confidential Information of the Disclosing Party. Specific Confidential Information disclosed by a Disclosing Party will not be deemed to be within any exceptions set forth in (i), (ii), or (iii) above merely because it is embraced by more general information to which one or more of those exceptions may apply and provided further that no combination of information shall be deemed to be within any such exceptions unless the combination itself and its principle of operation are within the public domain. Even though Confidential Information may be within one of the exceptions described in the preceding sentence, the Receiving Party shall not disclose to third parties that the excepted Confidential Information was received from the Disclosing Party.

6.3 Permitted Uses. Confidential Information of a Disclosing Party may be used by the Receiving Party in the performance of its obligations under any Transaction Agreement, as otherwise expressly authorized in any Transaction Agreement or as expressly authorized by the Disclosing Party in writing. Confidential Information that is Protiva Intellectual Property may be used by Licensee subject to and in accordance with the provisions of this Agreement applicable to Licensee's license to Protiva Intellectual Property. Licensee shall take steps to maintain the confidentiality of

such Confidential Information that are consistent with the steps it takes to maintain the confidentiality of its own most-valuable confidential information, but in no event less than commercially reasonable steps; provided, however, that nothing in this Agreement shall be deemed to eliminate, restrict, or otherwise limit Licensee's license to use such Confidential Information in accordance with the terms and conditions of this Agreement, even if such use may result, directly or indirectly, in the disclosure of such Confidential Information, so long as such disclosures are made in a manner than complies with Section 6.4 below.

6.4 Permitted Disclosures. The Receiving Party may disclose Confidential Information belonging to the Disclosing Party to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances: (i) subject to the proviso below, by any Party hereto, in order to comply with applicable non-patent law (including any securities law or regulation or the rules of a securities exchange in a relevant jurisdiction) and with judicial process, if based on the reasonable advice of the Receiving Party's counsel, such disclosure is necessary for such compliance; (ii) subject to the proviso below, by any Party hereto, in connection with prosecuting or defending litigation; (iii) by any Party hereto, in connection with filing and prosecuting Protiva Project Patents and Joint Project Patents only in a manner that complies with such Party's rights and obligations in connection with such matters as set out in the Transaction Agreements; (iv) subject to the proviso below, by Licensee, its Sublicensees, or their sublicensees in connection with any legal or regulatory requirements related to the development, sale, offer for sale, use or manufacture of commercial products (or potential commercial products) that use or employ Protiva Intellectual Property, such as labeling requirements, disclosures in connection with obtaining regulatory approvals, and the like, so long as the discovery, development, use, manufacture, and commercialization of such products has been and is performed in a manner that complies with the terms and conditions of Licensee's license to such Protiva Intellectual Property and reasonable steps shall be taken to maintain the confidentiality of said Confidential Information even when disclosed for legal or regulatory purposes; (v) subject to the proviso below, by the Licensee, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial information related thereto), and each of the Licensee's and its Affiliates' respective directors, employees, contractors and agents; and (vi) subject to the proviso below, by Protiva, to its Affiliates, permitted acquirers or assignees under the Transaction Agreements and its or any of their research collaborators, subcontractors, lenders (but, with respect to lenders, only Confidential Information related to the terms and conditions of the Transaction Agreements and financial information related thereto), and Protiva's and its Affiliates' respective directors, employees, contractors and agents, provided, that (a) with respect to clause (i), (ii) and (iv) where legally permissible, (1) the Receiving Party shall notify the Disclosing Party of the Receiving Party's intent to make any disclosure pursuant thereto sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, and (2) consistent with applicable law or regulation, the Disclosing Party shall have the right to suggest reasonable changes to the disclosure to protect its interests and the Receiving Party shall not unreasonably refuse to include such changes in its disclosure, and (b) with respect to clause (v) and (vi), each Person to whom Confidential Information is disclosed must be bound prior to disclosure by confidentiality and non-use restrictions at least as restrictive as those contained

in this Agreement (other than investment bankers, investors and lenders, who must be bound prior to disclosure by commercially reasonable obligations of confidentiality).

ARTICLE VII – INDEMNIFICATION AND INSURANCE

7.1 Protiva Indemnification . Protiva agrees to indemnify Licensee and its Affiliates, and their respective agents, directors, officers, employees, representatives, successors and permitted assigns (the "Licensee Indemnitees") against and to hold each of them harmless from any and all losses, costs, damages, fees or expenses ("Losses") actually incurred or suffered by an Licensee Indemnitee to the extent arising out of or in connection with any claim, suit, demand, investigation or proceeding brought by a Third Party based on any breach of any representation, warranty or covenant by Protiva under this Agreement or Protiva's gross negligence or willful misconduct. The foregoing indemnification shall not apply to the extent that any Losses are due to (a) a breach of any of Licensee's representations, warranties, covenants and/or obligations under this Agreement or (b) Licensee's gross negligence or willful misconduct.

7.2 Licensee Indemnification. Licensee agrees to indemnify Protiva and its Affiliates, and their respective agents, directors, officers, employees, representatives, successors and permitted assigns (the "Protiva Indemnitees") against and to hold each of them harmless from any and all Losses actually incurred or suffered by a Protiva Indemnitee to the extent arising out of or in connection with (a) any claim, suit, demand, investigation or proceeding brought by a Third Party based on (i) any breach of any representation, warranty or covenant by Licensee under this Agreement, or (ii) Licensee's gross negligence or willful misconduct, or (b) a Third Party's direct damages resulting from any development or Commercialization of any Product or products or processes that use or employ Protiva Intellectual Property. In addition to the limitations set forth in the preceding sentence, the foregoing indemnification obligations shall not apply to the extent that any Losses are due to (x) a breach of any of Protiva's representations, warranties, covenants and/or obligations under this Agreement, (y) Protiva's gross negligence or willful misconduct, or (z) any of the following occurring prior to or at Closing: (A) any breach of any representation, warranty or covenant by Licensee under this Agreement; (B) Licensee's gross negligence or willful misconduct; or (C) a breach of any of Protiva's representations, warranties, or covenants directed to Protiva Intellectual Property or the Protiva License under the Option Agreement.

7.3 Tender of Defense; Counsel . Any Person (the "Indemnified Party") seeking indemnification under Article VII agrees to give prompt notice in writing to the other Party (the "Indemnifying Party") of the assertion of any claim or the commencement of any action by any third party (a "Third Party Claim") in respect of which indemnity may be sought under such section. Such notice shall set forth in reasonable detail such Third Party Claim and the basis for indemnification (taking into account the information then available to the Indemnified Party). The failure to so notify the Indemnifying Party shall not relieve the Indemnifying Party of its obligations hereunder, except to the extent such failure shall have materially and adversely prejudiced the Indemnifying Party. The Indemnifying Party shall be entitled to participate in the defense of any Third Party Claim and shall, upon its written confirmation of its obligation to indemnify the Indemnified Party in accordance with this Article VII, be entitled to control and appoint lead counsel reasonably satisfactory to the Indemnified Party for such defense by written notice to the Indemnified

Party within twenty (20) calendar days after the Indemnifying Party has received notice of the Third Party Claim, in each case at its own expense; provided, however, that the Indemnifying Party must conduct the defense of the Third Party Claim actively and diligently thereafter in order to preserve its rights in this regard. The Indemnifying Party shall not be entitled to assume or maintain control of the defense of any Third Party Claim and shall pay the fees and expenses of one counsel retained by the Indemnified Party if: (a) the Third Party Claim relates to or arises in connection with any criminal proceeding, action, indictment or allegation, (b) the Third Party Claim seeks an injunction or equitable relief against a Indemnified Party or any of its Affiliates, or (c) the Indemnifying Party has failed or is failing to prosecute or defend vigorously the Third Party Claim. Each Indemnified Party shall obtain the prior written consent of the Indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned, before entering into any settlement of a Third Party Claim. Notwithstanding the foregoing, the Indemnifying Party shall not be entitled to enter into or approve any settlement of a Third Party Claim without the consent of the Indemnified Party (which may be withheld in its sole discretion), if the settlement (a) does not expressly unconditionally release all applicable Indemnified Parties and their Affiliates from all Liabilities with respect to such Third Party Claim or (b) imposes injunctive or other equitable relief against the Indemnified Party or any of its Affiliates, (c) involves any admission of criminal or similar liability, or (d) involves any monetary damages that may not be fully covered by the Indemnifying Party. In the event that the Indemnifying Party fails to assume the defense of the Third Party Claim in accordance with this Section 7.3, (a) the Indemnified Party may defend against the Third Party Claim in any manner it reasonably may deem appropriate, and (b) the Indemnifying Party will remain responsible for any Losses of the Indemnified Party as a result of such Third Party Claim. In circumstances where the Indemnifying Party is controlling the defense of a Third Party Claim in accordance with this Section 7.3, the Indemnified Party shall be entitled to participate in the defense of any Third Party Claim and to employ separate counsel of its choice for such purpose, in which case the fees and expenses of such separate counsel shall be borne by such Indemnified Party. Notwithstanding anything herein to the contrary, in circumstances where there is a conflict of interest that would reasonably make it inappropriate under applicable standards of professional conduct to have common counsel for the Indemnifying Party and the Indemnified Party, the Indemnified Party shall be entitled to employ separate counsel, that is reasonably acceptable to the Indemnifying Party, and the Indemnifying Party shall pay the reasonable fees and expenses of such separate counsel. Each Party shall cooperate, and cause their respective Affiliates to cooperate in all reasonable respects, in the defense or prosecution of any Third Party Claim and shall furnish or cause to be furnished such records, information and testimony, and attend such conferences, discovery proceedings, hearings, trials or appeals, as may be reasonably requested in connection therewith.

7.4 Insurance. Each Party shall maintain insurance, including product liability insurance, with respect to its activities under this Agreement regarding Products in such amount as such Party customarily maintains with respect to similar activities for its other products. Each Party shall maintain such insurance for so long as it continues its activities under this Agreement, and thereafter for so long as such Party customarily maintains insurance for itself covering similar activities for its other products. Notwithstanding the foregoing, the Parties agree that during such time that Licensee is an Affiliate of Protiva, Licensee shall have satisfied its obligations under this Section 7.4 provided it is covered by Protiva’s existing insurance policies.

ARTICLE VIII – TERM AND TERMINATION

8.1 **Term . The term of this Agreement (the "Term") shall begin on the Original Effective Date and, unless terminated earlier as provided herein, shall continue in perpetuity.**

8.2 Termination for Material Breach . In the event of a material breach of this Agreement by Licensee, Protiva may provide notice to Licensee setting forth the nature of the breach and a description of the facts underlying the breach sufficient to identify the breach. If Licensee has not cured such breach or proposed a reasonably satisfactory plan to cure or otherwise remedy such breach within ninety (90) days from the date of receipt of such notice of breach, Protiva may provide a notice of termination to Licensee and this Agreement shall terminate ninety (90) days after such notice of termination unless the breach is cured to the reasonable satisfaction of Protiva or unless Licensee has begun to implement a reasonably satisfactory plan to cure or otherwise remedy such breach within ninety (90) days from the receipt of such notice of termination. Notwithstanding the foregoing, or any termination of Licensee's license pursuant to Section 8.4 below, with respect to any sublicense entered into by Licensee for which the Sublicensee is not the cause of the material breach that resulted in the termination of this Agreement, then upon the assignment to Protiva of all rights of Licensee under such sublicense, Protiva shall assume those obligations of Licensee to such Sublicensee under such sublicense that are within the scope of Protiva's obligations to Licensee under this Agreement; all other obligations to the Sublicensee under such sublicense, and all liabilities of Licensee to such Sublicensee, shall remain the sole and exclusive obligations and liabilities of Protiva, and nothing in this Section 8.2 shall be deemed to expand, increase, or otherwise modify Protiva's obligations or liabilities under this Agreement.

8.3 Challenges of Protiva's Patents. If Licensee or any of its Affiliates shall (a) commence or participate in any action or proceeding (including any patent opposition or re-examination proceeding), or otherwise assert in writing any claim, challenging or denying the validity of any of the Protiva Background Patents or Protiva Project Patents or any claim thereof or (b) actively assist any other Person in bringing or prosecuting any action or proceeding (including any patent opposition or re-examination proceeding) challenging or denying the validity of such Patents or any claim thereof, Protiva will have the right to give notice to Licensee (which notice must be given, if at all, within ninety (90) days after Arbutus's CEO first learns of the foregoing) that the licenses granted by Protiva to such Patent will terminate in ninety (90) days following such notice, and, unless Licensee and/or its Affiliate, as applicable, withdraws or causes to be withdrawn all such challenge(s) within such ninety-day period, such licenses will so terminate.

8.4 Rights in Bankruptcy. Each Party (the "Insolvent Party") shall promptly notify the other Party (the "Solvent Party") in writing upon the initiation of any proceeding in bankruptcy, reorganization, dissolution, liquidation or arrangement for the appointment of a receiver or trustee to take possession of the assets of the Insolvent Party or similar proceeding under the law for release of creditors by or against the Insolvent Party or if the Insolvent Party shall make a general assignment for the benefit of its creditors. To the extent permitted by Applicable Law, if the applicable circumstances described above shall have continued for ninety (90) days undismissed, unstayed, unbonded and undischarged, the Solvent Party may terminate this Agreement upon written notice to the Insolvent Party at any time. If Protiva is the Insolvent Party, the rights and remedies granted

to Licensee (as the Solvent Party) pursuant to this Section 8.4 shall be in addition to, and not in lieu of, Licensee's rights and remedies under Section 2.4 above.

8.5 Consequences of Termination; Survival.

(a) In the event this Agreement is properly terminated in accordance with its terms, then except as provided in the Protiva-Monsanto Services Agreement, Licensee's rights and licenses under the Protiva Intellectual Property shall terminate upon the effective date of such termination. Termination of this Agreement shall not relieve the Parties of any obligation accruing prior to or upon such expiration or termination and the provisions of ARTICLE I – (Definitions), ARTICLE VI – (Confidential Information), ARTICLE VII – (Indemnification), and ARTICLE IX – (Miscellaneous) shall survive any expiration or termination of this Agreement.

(b) Notwithstanding anything to the contrary contained in this Agreement, if it is determined that Protiva has breached its representation and warranty in Section 9.1(b)(iii), Licensee's sole and exclusive remedy shall be to require Arbutus or its Affiliate, as applicable, to grant to Licensee a license under its Patents or Know-How for all purposes in the Agricultural Field and such Patents and/or Know-How shall thereafter be included within Protiva Intellectual Property for all purpose of this Agreement; provided, however, that the foregoing shall not be deemed to limit, eliminate or otherwise modify Protiva's obligations under Section 7.1 to indemnify any Licensee Indemnitee against or hold any Licensee Indemnitee harmless in respect of any Losses actually incurred or suffered by a Licensee Indemnitee arising out of or in connection with any claim, suit, demand, investigation or proceeding brought by UBC or any other Third Party based on any breach of any representation, warranty or covenant by Protiva under this Agreement, including Section 9.1(b)(vi), even if or to the extent such Losses may also arise out Protiva's breach of Section 9.1(b)(iii). Furthermore, omission from the Technology Transfer Compound List of any Compound or Formulation that was provided or created by Protiva or its Affiliate in connection with the Research Program shall not be deemed to limit or eliminate Licensee's rights under the second sentence of Section 2.1 with respect to such Compound or Formulation.

8.6 Remedies. The Parties acknowledge and agree that, in the event of a breach or a threatened breach by either Party of this Agreement for which it will have no adequate remedy at law, the other Party may suffer irreparable damage and, accordingly, shall be entitled to injunctive and other equitable remedies to prevent or restrain such breach or threatened breach, in addition to any other remedy they might have at law or at equity. In the event of a breach or threatened breach by a Party of any such provision, the other Party shall be authorized and entitled to obtain from any court of competent jurisdiction injunctive relief, whether preliminary or permanent, arising from such breach, which rights shall be cumulative and in addition to any other rights or remedies to which the other Party may be entitled in law or equity.

ARTICLE IX – MISCELLANEOUS

9.1 Representations and Warranties .

(a) Mutual Representations and Warranties by Protiva and Licensee.

(i) Each Party hereby represents and warrants to the other Party as of the Original Effective Date:

(a) It is duly organized and validly existing under the laws of the jurisdiction of its incorporation or formation, and has all necessary power and authority to conduct its business in the manner in which it is currently being conducted, to own and use its assets in the manner in which its assets are currently owned and used, and to enter into and perform its obligations under this Agreement.

(b) The execution, delivery and performance of this Agreement has been duly authorized by all necessary action on the part of such Party and its Board of Directors and no consent, approval, order or authorization of, or registration, declaration or filing with any Third Party or Governmental Authority is necessary for the execution, delivery or performance of this Agreement.

(c) This Agreement constitutes the legal, valid and binding obligation of such Party, enforceable against it in accordance with its terms, subject to (A) laws of general application relating to bankruptcy, insolvency and the relief of debtors, and (B) rules of law governing specific performance, injunctive relief and other equitable remedies.

(d) It has never approved or commenced any proceeding, or made any election contemplating, the winding up or cessation of its business or affairs or the assignment of material assets for the benefit of creditors. To such Party's knowledge, no such proceeding is pending or threatened.

(ii) Each Party acknowledges and agrees that the other Party has not made any representation or warranty under this Agreement that it has or can provide all the rights that are necessary or useful to Research, Develop or Commercialize a Product; provided, however, that nothing in this Section 9.1(a)(ii) or elsewhere in this Agreement shall be deemed to eliminate, reduce, or otherwise modify any liability or obligation of Protiva or Licensee that may arise out of any representation, warranty, or covenant made by Protiva or Licensee under the Option Agreement or any other Transaction Agreement.

(iii) Each Party represents and warrants to the other Party that as of the Original Effective Date and as of Closing it has the right to grant to such other Party, its Affiliates and Sublicensees the licenses granted hereunder and has not granted any conflicting rights to any other Person.

(b) Protiva Representations, Warranties, and Covenants. Protiva hereby represents, warrants, and covenants to Licensee that:

(i) To Protiva's Knowledge, except as set forth on Schedule 9.1(b), the conception, development and reduction to practice of the Protiva Intellectual Property licensed to Licensee under the Original License did not constitute or involve the infringement, misappropriation,

or other violation of trade secrets or other rights (including intellectual property rights) or property related to polynucleotide delivery in biological systems of any Person anywhere in the Territory.

(ii) If a Compound or Formulation was provided or created by Protiva or its Affiliate in connection with the Research Program, the use and employment of which as contemplated by the Research Program or the Original License (including but not limited to in connection with the development, Manufacture, or Commercialization of any Product or the development, manufacture, or commercialization of any other product or process that uses or employs Protiva Intellectual Property) would, to the Knowledge of Protiva, infringe upon or misappropriate or otherwise violate the Intellectual Property of any Third Party, then Protiva promptly (and, in any event, prior to or contemporaneously with providing such Compound or Formulation to Monsanto under the Protiva-Monsanto Services Agreement) provided written notice thereof to the JRC;

(iii) Except for the Tekmira Patents, as of the Original Effective Date, neither Tekmira nor any of its Affiliates (other than Protiva) owned or Controlled (including by joint ownership) any Patents or Know-How relevant to or useful in the composition, formulation, or manufacture of Compounds and/or Formulations and their use in the Agricultural Field;

(iv) Neither Protiva nor any of its Affiliates has assigned, transferred, conveyed or otherwise encumbered its right, title and interest in the Protiva Intellectual Property in a manner that conflicts with any rights granted to Licensee hereunder;

(v) In the provision of Services under the Original License, and except as disclosed in accordance with Section 9.1(b)(ii) above, Protiva did not Knowingly infringe, misappropriate, or otherwise violate any trade secrets or other rights (including intellectual property rights) or property of any Person anywhere in the Territory;

(vi) No Compound or Formulation: (i) that was provided or created by Protiva or its Affiliate in connection with the Research Program and that is identified, or required to be identified, on the Technology Transfer Compound List to be provided to Licensee pursuant to the Technology Transfer or (ii) that was or is delivered, disclosed or otherwise provided to Licensee in the performance of the Technology Transfer, or the use and employment any Compound or Formulation described in item (i) or (ii) above as contemplated by the Original License (including but not limited to in connection with the development, Manufacture, or Commercialization of any Product or the development, manufacture, or commercialization of any other product or process that uses or employs Protiva Intellectual Property), will infringe, misappropriate or otherwise violate any UBC IP; and

(vii) During the Term, neither Arbutus nor any of its Affiliates will grant a license, sublicense or other right, title, or interest in or to any Patents or Know-How it owns or Controls (including by joint ownership) as of the Original Effective Date to any Third Party for use in the Agricultural Field.

(viii) Notwithstanding Sections 9.1(b)(i) and 9.1(b)(v) above, Licensee agrees and acknowledges that Protiva makes no representation, warranty or covenant regarding whether any

nucleic acid molecules provided by Monsanto and used by Protiva in the performance of the Research Plan, or used by Licensee in connection with the development, Manufacture, or Commercialization of any Product or the development, manufacture, or commercialization of any other product or process that uses or employs Protiva Intellectual Property infringe, misappropriate, or otherwise violate the trade secrets or other rights (including intellectual property rights) or property of any Person anywhere in the Territory.

(c) Warranty Disclaimer. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT OR THE ORIGINAL LICENSE, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTY OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, TO THE OTHER PARTY WITH RESPECT TO ANY INTELLECTUAL PROPERTY, PRODUCTS, GOODS, RIGHTS OR OTHER SUBJECT MATTER OF THIS AGREEMENT OR THE ORIGINAL LICENSE AND HEREBY DISCLAIMS ALL IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR VALIDITY OF PATENT RIGHTS WITH RESPECT TO ANY AND ALL OF THE FOREGOING. EACH PARTY HEREBY DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT THE DEVELOPMENT, MANUFACTURE OR COMMERCIALIZATION OF ANY PRODUCT PURSUANT TO THIS AGREEMENT SHALL BE SUCCESSFUL OR THAT ANY PARTICULAR SALES LEVEL WITH RESPECT TO ANY SUCH PRODUCT SHALL BE ACHIEVED. Nothing in this Section 9.1(c) or elsewhere in this Agreement or the Original License shall be deemed to eliminate, reduce, or otherwise modify any liability or obligation of Protiva or Licensee that may arise out of any representation, warranty, or covenant made by Protiva or Licensee under the Option Agreement or any other Transaction Agreement.

9.2 Force Majeure . Except with respect to payment obligations, a Party shall neither be held liable or responsible to any other Party, nor be deemed to have defaulted under or breached this Agreement, for failure or delay in fulfilling or performing any term of this Agreement to the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party, including fire, floods, embargoes, power shortage or failure, acts of war (whether war be declared or not), insurrections, riots, terrorism, civil commotions, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions or delays in acting by any Governmental Authority or any other Party, and such affected Party promptly begins performing under this Agreement once such causes have been removed.

9.3 Consequential Damages . UNDER NO CIRCUMSTANCES WILL ANY PARTY BE LIABLE TO ANY OTHER PARTY WITH RESPECT TO THE PROVISION OF THE SERVICES HEREUNDER OR UNDER THE ORIGINAL LICENSE FOR ANY CONSEQUENTIAL, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL OR SIMILAR DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE AND REGARDLESS OF THE CAUSE OF ACTION FROM WHICH THEY ARISE, INCLUDING, WITHOUT LIMITATION, CLAIMS FOR LOSS OF GOODWILL OR LOST PROFITS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OCCURRING. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 9.3 IS INTENDED TO OR SHALL LIMIT OR

RESTRICT THE INDEMNIFICATION RIGHTS OF A PARTY OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF CONFIDENTIALITY OBLIGATIONS IN ARTICLE VI OR ANY DAMAGES THAT MAY BE AVAILABLE TO A PARTY AS A RESULT OF ANOTHER PARTY'S BREACH OF ITS OBLIGATIONS UNDER ANY OTHER TRANSACTION AGREEMENT, SUBJECT TO THE LIMITATIONS SET FORTH THEREIN.

9.4 Assignment. Licensee may freely assign its rights and obligations hereunder to Monsanto or Monsanto Canada upon or at any time after the Closing so long as Monsanto or Monsanto Canada, as the case may be, expressly assumes in writing Licensee's rights and obligations herein. Protiva may not assign or otherwise transfer this Agreement or any of its rights and obligations under this Agreement at any time without the prior written consent of Monsanto. Any purported transfer or assignment in contravention of this Section 9.4 shall, at the option of the non-assigning Party, be null and void and of no effect. This Agreement shall be binding upon and inure to the benefit of the Parties and their permitted successors and assigns. No assignment by Protiva or any of its Affiliates of any right, title, or interest in or to the Protiva Intellectual Property shall extinguish, limit, or otherwise modify any rights granted to Licensee in or to such Protiva Intellectual Property, or the exclusivity of such rights.

9.5 **Notices** .

Notices to Licensee shall be addressed to:

Protiva Agricultural Development Company Inc.
c/o Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
Attention: Technology Alliances Lead

With copies to:

Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63167
Attention: Deputy General Counsel, Intellectual Property

Bryan Cave LLP
One Metropolitan Square
211 North Broadway, Suite 3600
St. Louis, Missouri 63102
Attn: C. Brendan Johnson
Facsimile No.: (314) 552-8438

Notices to Protiva shall be addressed to:

Protiva Pharmaceuticals Corporation
100-8900 Glenlyon Parkway

Burnaby, B.C.
Canada V5J 5J8
Attention: President & CEO
Facsimile No.: (604) 630-5103

Notices to Arbutus shall be addressed to:

Arbutus Biopharma Corporation
100-8900 Glenlyon Parkway
Burnaby, B.C.
Canada V5J 5J8
Attention: President & CEO
Facsimile No.: (604) 630-5103

In each case with copy to:

Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
Attention: R. King Milling
Facsimile No.: (212) 506-5151

Either Party may change its address by giving notice to the other Party in the manner provided in this Section 9.5. Any notice required or provided for by the terms of this Agreement shall be in writing and shall be (a) sent by certified mail, return receipt requested, postage prepaid, (b) sent via a reputable international express courier service, or (c) sent by facsimile transmission, with a copy by regular mail. The effective date of the notice shall be the actual date of receipt by the Receiving Party.

9.6 Independent Contractors . It is understood and agreed that the relationship between the Parties is that of independent contractors and that nothing in this Agreement shall be construed as authorization for either Party to act as the agent for the other Party.

9.7 Governing Law; Jurisdiction. This Agreement shall be governed and interpreted in accordance with the substantive laws of the State of New York, excluding its conflicts of laws principles. In the event any action shall be brought to enforce or interpret the terms of this Agreement, the Parties agree that such action will be brought in the State or Federal courts located in New York, New York. Each of the Parties hereby irrevocably submits with regard to any action or proceeding for itself and in respect to its property, generally and unconditionally, to the nonexclusive jurisdiction of the aforesaid courts. Each of the Parties hereby irrevocably waives, and agrees not to assert, by way of motion, as a defense, counterclaim or otherwise, in any action or proceeding with respect to this Agreement, (a) any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason other than the failure to lawfully serve process, (b) that it or its property is exempt or immune from jurisdiction of any such court or from any legal process commenced in such courts (whether through service of notice, attachment prior to judgment, attachment in aid of execution of judgment, execution of judgment or otherwise), and (c) to the fullest extent permitted

by Applicable Law, that (i) the suit, action or proceeding in any such court is brought in an inconvenient forum, (ii) the venue of such suit, action or proceeding is improper, and (iii) this Agreement, or the subject matter hereof, may not be enforced in or by such courts.

9.8 Severability . In the event that any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable because it is invalid or in conflict with any law of the relevant jurisdiction, the validity of the remaining provisions shall not be affected and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular provisions held to be unenforceable, provided that the Parties shall negotiate in good faith a modification of this Agreement with a view to revising this Agreement in a manner which reflects, as closely as is reasonably practicable, the commercial terms of this Agreement as originally signed.

9.9 No Implied Waivers . The waiver by either Party of a breach or default of any provision of this Agreement by the other Party shall not be construed as a waiver of any succeeding breach of the same or any other provision, nor shall any delay or omission on the part of either Party to exercise or avail itself of any right, power or privilege that it has or may have hereunder operate as a waiver of any right, power or privilege by such Party.

9.10 Headings. The headings of articles and sections contained this Agreement are intended solely for convenience and ease of reference and do not constitute any part of this Agreement, or have any effect on its interpretation or construction.

9.11 Entire Agreement; Amendment . This Agreement (along with the attachments) and the other Transaction Agreements (as amended as of the Effective Date) contain the entire understanding of the Parties with respect to the subject matter hereof and thereof and, except as provided in Section 9.16 below, supersede and replace any and all previous arrangements and understandings, whether oral or written, between the Parties with respect to the subject matter hereof and thereof. This Agreement (including the attachments hereto) may be amended only by a writing signed by each of the Parties.

9.12 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement shall be construed against the drafting Party shall not apply.

9.13 No Third-Party Beneficiaries. Except as expressly contemplated herein, no Third Party, including any employee of any Party to this Agreement, shall have or acquire any rights by reason of this Agreement.

9.14 Further Assurances. Each Party shall provide such further documents or instruments required by the other Party as may be reasonably necessary or desirable to give effect to the purpose of this Agreement and carry out its provisions.

9.15 Performance by Affiliates . Either Party may use one or more of its Affiliates to perform its obligations and duties hereunder and Affiliates of a Party are expressly granted certain

rights herein; provided that each such Affiliate shall be bound by the corresponding obligations of such Party and the relevant Party shall remain liable hereunder for the prompt payment and performance of all their respective obligations hereunder.

9.16 Effect of Amendment. Nothing in this Agreement shall be deemed to eliminate or modify any rights or obligations of the Parties under the Original License that had accrued prior to the Effective Date, including any obligations in respect of any election under subsection 85(1) of the Tax Act made pursuant to the Original License, it being understood and agreed by the Parties that the terms and conditions of this Agreement are effective from and after the Effective Date.

9.17 Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument.

[*Signature Page Follows*]

IN WITNESS WHEREOF, Licensee and Protiva have set their hands to this License and Services Agreement as of the date first written above.

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY, INC.

By: /s/Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

ARBUTUS BIOPHARMA CORPORATION

By: /s/Bruce Cousins

Name: Bruce Cousins
Title: Executive Vice President and CFO

PROTIVA BIOTHERAPEUTICS INC.

By: /s/Bruce Cousins

Name: Bruce Cousins
Title: Executive Vice President and CFO

EXHIBIT A

[***]

FIRST AMENDMENT

TO

PROTIVA-MONSANTO SERVICES AGREEMENT

THIS FIRST AMENDMENT TO THE PROTIVA-MONSANTO SERVICES AGREEMENT (this "Amendment") is made and entered into as of March 4, 2016, (the "Effective Date") by and among Protiva Biotherapeutics, Inc., a British Columbia corporation ("Protiva") and a wholly-owned subsidiary of Arbutus Biopharma Corporation, formerly Tekmira Pharmaceutcals Corporation ("Arbutus"), Protiva Agricultural Development Company Inc. ("PadCo"), a British Columbia corporation and a wholly-owned subsidiary of Protiva (the "Company"), and Monsanto Company, a Delaware corporation ("Monsanto").

WHEREAS, Protiva, the Company and Monsanto entered into that certain Protiva-Monsanto Services Agreement on January 12, 2014 (the "Agreement"), and, contemporaneously with the execution of the Agreement: (a) Protiva, Arbutus, PadCo and Monsanto Canada entered into the Option Agreement and (b) PadCo, Protiva and Tekmira entered into the PadCo-Protiva License and Services Agreement;

WHEREAS, contemporaneously with the execution of this Amendment and as of the Effective Date: (a) the parties to the PadCo-Protiva License and Services Agreement are amending and restating the PadCo-Protiva License and Services Agreement, (b) the parties to the Option Agreement are amending and restating the Option Agreement, (c) Monsanto is exercising the Call Option to acquire all of the outstanding capital stock of PadCo, and (d) Closing is occurring;

WHEREAS, Protiva, the Company and Monsanto desire to amend the Agreement, effective as of the Effective Date, as set forth herein; and

NOW THEREFORE, in consideration of the representations, warranties, covenants and agreements contained herein, and for other valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties mutually agree to amend and modify the Agreement as follows:

1. All capitalized terms used in this Amendment, unless otherwise defined, shall have the meanings ascribed to such terms in the Agreement. In addition, the following terms shall have the following meanings for purposes of this Amendment:

(a) "Monsanto New Improvement" means an invention that is (i) Monsanto New Intellectual Property, (ii) claimed in an issued patent owned by Monsanto and having a priority date that is on or after the Effective Date, and (iii) the practice of which, if practiced at the time of said

priority date, would be covered by at least one Valid Claim of a Patent that is a Protiva Background Patent or Protiva Project Patent.

(b) "Monsanto New Intellectual Property" means all inventions that are conceived by Monsanto Personnel on or after the Effective Date and that are covered by at least one Valid Claim of a Patent. For the avoidance of doubt inventions that were conceived by Monsanto Personnel in the conduct of activities under the Research Program and that are not Joint Project Intellectual Property are Monsanto Project Intellectual Property and not Monsanto New Intellectual Property.

2. The Parties acknowledge and agree that, as of the Effective Date, Monsanto Canada is exercising the Call Option prior to completion of Phase C (as such term is defined in the Research Program). Monsanto hereby elects to terminate research under the Research Plan as of the Effective Date and, therefore, the Parties acknowledge and agree that, on and as of the Effective Date, the Term of the Agreement shall be deemed to expire.

3. The following new subsection (c) is hereby added to Section 4.2 of the Agreement:

"(c) an irrevocable, worldwide, perpetual (subject to Sections 8.3 and 8.4), royalty-free, transferrable (subject to Section 9.1 below) license, with right to sublicense (subject to Section 4.3 below), in and to any Monsanto New Improvements for all purposes in the Protiva Field, which license shall be exclusive, other than in respect of any Monsanto New Improvements that Monsanto is obligated to license to a third party pursuant to any agreement in existence as of the Effective Date, in which case such license shall be non-exclusive.

4. References to "Monsanto Improvements" in Sections 4.1, 4.3, 4.7, 4.9, 4.10, 6.2, and 8.3(ii) of the Agreement shall be deemed to also refer to and include Monsanto New Improvements.

5. References to "Monsanto Project Intellectual Property" in Sections 4.1, 4.4, and 4.5 of the Agreement shall be deemed to also refer to and include Monsanto New Intellectual Property.

6. In all other respects, the terms, conditions, and covenants of the Agreement shall remain unchanged and any rights that either of the Parties may have under the Agreement shall remain in full force and effect.

7. This Amendment may be executed in two or more counterparts, each of which will be deemed an original and all of which together will constitute one and the same instrument. Each shall be considered signed when the signature of a Party is delivered by facsimile, electronic signature or electronic (email) transmission to the other Parties, when it is delivered in a manner that reasonably identifies the signatory as the Party named. Such electronic signatures shall be

treated in all respects as having the same effect as an original signature. If requested by any Party, documents bearing an original signature may be subsequently and promptly submitted to replace copies bearing electronic signatures. By signing this Amendment the representatives of each Party thereby represent that such Person is duly authorized by the Party in question to execute this Amendment on behalf of such Party and that each respective Party agrees to be bound by the provisions thereof. The Parties to this document agree that a copy of the original signature (including an electronic copy) may be used for any and all purposes for which the original signature may have been used.

IN WITNESS WHEREOF, the Parties hereto by their duly authorized representatives have caused this Amendment to be executed and delivered as of the date first shown above.

PROTIVA BIOTHERAPEUTICS, INC.

By: /s/ Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

PROTIVA AGRICULTURAL DEVELOPMENT COMPANY, INC.

By: /s/ Bruce Cousins
Name: Bruce Cousins
Title: Executive Vice President and CFO

MONSANTO COMPANY

By: /s/Robert M. McCarroll
Name: Robert M. McCarroll, Ph. D.
Title: VP, Chemistry Technology

Exhibit 21.1

Arbutus Biopharma Corporation

List of Subsidiaries

Name	Date on which the entity became Arbutus' wholly owned sub	Jurisdiction
Protiva Biotherapeutics Inc.	May 30, 2008	British Columbia, Canada
Arbutus Biopharma Inc.	Mar. 4, 2015	Delaware, United States of America

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Arbutus Biopharma Corporation

We consent to the incorporation by reference in the registration statement on Form S-3MEF (No. 333-202883), registration statement on Form S-3A (No. 333-200625), registration statement on Form S-8 (No. 333-202762) and registration statement on Form S-8 (No. 333-186185) of Arbutus Biopharma Corporation of our reports dated March 9, 2016, with respect to the consolidated balance sheets of Arbutus Biopharma Corporation as of December 31, 2015 and 2014, and the related consolidated statements of operations and comprehensive loss, stockholders' equity and cash flows for each of the years in the three-year period ended December 31, 2015, and the effectiveness of internal control over financial reporting as of December 31, 2015, which reports appear in the December 31, 2015 annual report on Form 10-K of Arbutus Biopharma Corporation.

/s/ KPMG LLP

Chartered Professional Accountants

March 9, 2016
Vancouver, Canada

Exhibit 31.1

CERTIFICATION PURSUANT TO RULE 13a-14 OR 15d-14 OF THE SECURITIES

EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE

SARBANES-OXLEY ACT OF 2002

I, Mark J. Murray, certify that:

1. I have reviewed this Form 10-K Arbutus Biopharma Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an the annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2016

/s/ Mark J. Murray

Name: Mark J. Murray

Title: President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION PURSUANT TO RULE 13a-14 OR 15d-14 OF THE SECURITIES

EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE

SARBANES-OXLEY ACT OF 2002

I, Bruce Cousins, certify that:

1. I have reviewed this Form 10-K of Arbutus Biopharma Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting

Date: March 9, 2016

/s/ Bruce Cousins

Name: Bruce Cousins

Title: Executive Vice President, Finance and Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Arbutus Biopharma Corporation (the "Company") on Form 10-K for the year ended December 31, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I Mark J. Murray, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly represents, in all material respects, the financial condition and results of the operations of the Company.

Date: March 9, 2016

/s/ Mark J. Murray

Name: Mark J. Murray

Title: President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Arbutus Biopharma Corporation (the "Company") on Form 10-K for the year ended December 31, 2015, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I Bruce Cousins, Executive Vice President, Finance and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly represents, in all material respects, the financial condition and results of the operations of the Company.

Date: March 9, 2016

/s/ Bruce Cousins

Name: Bruce Cousins

Title: Executive Vice President, Finance and Chief Financial Officer